

AMERICAN VETERINARY REVIEW.

JUNE, 1897.

EDITORIAL.

SIGNS OF THE TIMES.

The REVIEW prefers to be conservative and deliberate rather than optimistic and precipitate in the formation of judgment upon great events; it prefers to view the dark side of questions by the light radiating from the bright side; it elects to formulate a calm estimate rather than a snap conclusion. But unless our eyes are totally devoid of prophetic vision, our mind dimmed by the recent long years of dejection by the constant contraction of the sphere of the veterinarian as a practitioner, as the physician to the sick and the halt, there is a wave starting at the fountain-head which will gradually enlarge and become more powerful as it flows on towards its destination—veterinary prosperity. We have on many occasions referred to the depression in the practice of veterinary medicine, and in every instance have insisted that we were but bearing our proportionate amount of the universal stagnation; that the prehistoric companion and servant of man, the horse, immortalized in the literature and life of every land where the sun gives forth its effulgence—more grand, more noble, more beautiful, more fleet, more intelligent now than ever in the history of the world—was to go into decadence at the end of the nineteenth century before the inventions of man, who has brought forth the inanimate progression of two self-propelled wheels, or the cumbersome and thus far unmanageable automobile vehicle, was too preposterous to gain the serious contempla-

tion of thoughtful men. It is a part of the life of good men and women to love their fellow-creatures, and in proportion to the intelligence, the usefulness, and the fidelity of those creatures the meed of affection is displayed, and more abundantly returned than it is received. This link of love will ever preclude the possibility of discarding them from performing their proper duties of labor, of usefulness, of pleasure, of companionship. However wonderfully man may perfect machines to be propelled by any form of motive power, they will never supersede the soliped as a means of pleasure progression; and if the inanimate propeller ever attains a state of utility sufficiently perfect to be of service in the realms of business, in greater proportion will the horse find his proper godgiven sphere before our pleasure carriages and under the saddle. No true friend of the horse ever felt other than thankful when electricity took his place upon our street cars in the cities; he had been bred in the coarsest mould in order to cheapen his price, and his life was a continual drudgery and disgrace to his noble race. The horse, as a race, therefore, will be greatly benefitted by the cessation in rearing such nondescripts. Anyone who seriously believes that the bicycle will make any prolonged opposition to the horse for pleasure must argue the question from the standpoint of a pessimist and not from sound reasoning.

A correspondent of the REVIEW—whose opinion on other subjects we very highly esteem—gives a very alarming view of the situation, and whose article is in a measure the occasion of these remarks. He quotes what he terms the following significant figures: Loss in horses and livery for the past year, \$20,000,000; loss to pleasure vehicles, \$15,000,000; loss in harness and saddles, \$10,000,000. He takes his inspiration from "a New York journal of recent date," which journal is probable catering to a bicycle-reading public. From what journal or from what source can any estimate be made? It is a guess, and the wish is father to the estimate. Even if the figures were correct, would the loss be attributable solely or in small part to the bicycle? Every branch of business—manufacturing, the trades, arts,

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sciences, and even capital—has suffered to such an extent that an estimate of the losses is not possible. Why not add the losses in every industry together for the past four years and place them all to the account of the all-absorbing and all-conquering hump-backed bicycle?

As the general financial and commercial horizon clears, and prosperity again smiles on this great country, which it is as certain to do as the bicycle as a craze is to subside, the horse and his friends (and their name is legion) will participate as grandly in the good times as they ever did. Already the demand for well-bred animals is increasing, prices are as high for quality as they have been for years, and they will steadily advance with a return of the feeling that the country has emerged from the chaotic state in which it has existed for the past four years.

ILLINOIS VETERINARIANS UP IN ARMS.

There is nothing surprising about the action of the Chicago Veterinary Society at its special meeting in April and at its regular May session, as the profession of Illinois generally, and of Chicago in particular, has been submitted to the most humiliating insults both by the Governor of the State and the authorities of the Windy City that could be offered to a body of earnest men struggling for the good of a noble profession and for the benefit of mankind. The affront is no greater to the veterinarians of Chicago than it is to the members of the profession throughout the State, so far as the action of Governor Tanner is concerned, but the Society, being composed of energetic and earnest men, and meeting at frequent intervals, has undertaken to champion the cause of their less fortunate brethren, until such time as it too can take up the cudgel against the common enemy, the politician. Nor is this disgraceful proceeding a State matter only, but it concerns every graduated member of the profession of veterinary medicine throughout the country and throughout the English-speaking world. We made notice in the May REVIEW of the appointment by the Governor of the State in question of a non-graduate to the very impor-

tant position of State Veterinarian. Not only was he objectionable for this reason, but he was described as a man opposed to the higher education of the veterinarian. This appointment was made in the face of the earnest protest of the united legitimate profession of the State. As if to add insult to injury, the heads of the departments of police and fire of the city of Chicago have followed in the footsteps of the Governor, ignoring, as did he, the protests of the regular members, and have placed the animals of their departments under the charge of a non-graduate. We direct the attention of our readers to the reports of the last two meetings of the Chicago Veterinary Society, printed elsewhere in this issue, and commend most highly their laudable efforts to checkmate the pernicious influences that are maintaining in that State. Especially do we applaud the action of Drs. Hughes and Ryan in resigning their positions of Assistant State Veterinarians and their refusal to be connected in any way with the office under such conditions.

The entire profession of the State should stand as a unit in support of the position taken by the local society against such a high-handed disregard of the progress of civilization and the countenancing of such an exhibition of brigandage; they should employ the most effective means to combat the baneful influences which are running rampant in the political policies of the fair commonwealth, they should follow them unceasingly, and pursue them with such intrepidity that the shadow of the aroused cause of veterinary medicine will reflect against all who may in the future dare to so offend public decency. The method of attacking the monster of quackery by prohibitive legislation is the only safeguard against the crushing juggernaut known as the spoils system.

GRADUATED VETERINARIANS OF NEW YORK STATE.

Through the courtesy of Secretary Claude D. Morris, of the New York State Veterinary Medical Society, we have been furnished with an advance copy of a little pamphlet entitled "List

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of Veterinary Surgeons, compiled by the New York State Veterinary Medical Society, who are citizens of the State and registered in the various counties." In a preface it is explained that the list is sent out in the hope that its circulation will be the means of correcting whatever errors may be found to exist, if all those who receive it will inform the Secretary of any misstatements relative to the person's name, his address, and the name of the college from which he graduated, "as it is intended to print the list in book form in connection with such other information as will be of interest and value to the veterinarian." It will be observed that the list includes none but graduates, and we note by running over the list that there are 630 names, coming from 31 schools, as follows: American Veterinary College, 198; Ontario Veterinary College, 177; New York College of Veterinary Surgeons, 114; Royal College of Veterinary Surgeons, England, 35; Columbia Veterinary College, 29; Montreal Veterinary College (McGill University), 18; Chicago Veterinary College, 9; University of Pennsylvania, 5; Ohio Veterinary College, 4; University of Boston, 4; Royal School of Dresden, 3; Hanover Veterinary College, Germany, 3; National Veterinary College, Washington, D. C., 2; Royal School of Naples, 2; Royal Veterinary College, Stuttgart, 2; Central Veterinary School, Munich, 2; Imperial Veterinary School of France, 2; Veterinary College of Berlin, 2; Royal Danish Veterinary College, 1; University of Stockholm, 1; Switzerland Veterinary College, 1; Royal College of Copenhagen, 1; Bavarian Veterinary College 1; Cornell University, 1; College of Veterinary Surgeons of Prussia, 1; College of Geisberg, Wiesbaden, 1; University of Munich, 1; Veterinary College of Philadelphia, 1; University of Bern, Switzerland, 1.

GET READY FOR NASHVILLE.

Are you making preparations to visit Nashville in September, when the thirty-fourth annual meeting of the United States Veterinary Medical Association takes place? Those who were fortunate enough to be present at the convention in Buffalo

need scarcely be urged to journey southward this year, because they are well aware that they cannot afford to be absent; but those who were prevented from attending last year have a double reason to make every effort to be among the fortunate ones this year. It is not only a trip fraught with the highest educational advantages, but it is a duty one owes to his health and happiness to throw off for a short period the cares of an exacting professional life and go forth into a most picturesque and interesting country, into a land new to most of us, and to a city whose beauty and progressiveness form a constant source of comment, and at a time when the great national exposition will be at the zenith of its magnificence. Southern hospitality is proverbial, and to the visiting veterinarian no spot in the land can possibly hold forth more attractions than Nashville, located as it is among the most celebrated stock farms and estates in the country. Begin your preparations now, and join your colleagues beneath the southern sun.

NO FEES FOR STATE STUDENTS AT THE NEW YORK STATE VETERINARY COLLEGE.—Just prior to the closing of the forms for this issue of the REVIEW the following letter, which is self-explanatory, was received, and we confess that, although we have given State legislation relative to matters veterinary a good deal of attention during the past session, we did not know that the bill which has by this notification become a law was pending before the legislature:

NEW YORK STATE VETERINARY COLLEGE, }
CORNELL UNIVERSITY, }
ITHACA, N. Y., May 22, 1897. }

Dr. R. R. Bell:

MY DEAR SIR:—Governor Black has just signed our administration bill providing among other things that: "No tuition fee shall be required of students pursuing the regular veterinary course, who at the time of admission to the State Veterinary College are legal residents of this State." This will come into operation in the case of all New York State students entering next September.

Very truly yours,

JAMES LAW.

IT IS SAID that Marcus Daly has expended \$1,800,000 in improvements upon his Bitter Root Ranch in Montana.

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ORIGINAL ARTICLES.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

AZOTURIA, WITH STRAIN AND ATROPHY OF THE GREAT DORSAL MUSCLES IN A MARE.

BY W. L. WILLIAMS, V. S., PROF. SURGERY AND OBSTETRICS, NEW YORK STATE VETERINARY COLLEGE.

It is not unusual to meet with contusions, strains and fractures as a result of casting horses for operations, and at times we have had occasion to observe tympanitic colic after tedious, cramped confinement, but we have neither observed nor found recorded, among these accidents, the disease we know as azoturia or hæmoglobinuria.

The subject was a common-bred mare, aged eight years, used for light farm work and well kept by a very gentle owner. She was worked regularly during the summer, but quite irregularly during the winter.

For three years she had suffered from mild double navicular disease, which became more continuous and pronounced about September, 1896, on which account she was presented at the college clinic on Feb. 16, this year, for operation.

On the 15th, the patient was led about nine miles and on the 16th completed her journey to the college, a further distance of six miles, and was placed in the college hospital at 2 P. M. She was in robust health and high condition, without excessive fatness, and, having travelled the entire distance at a walk to the halter, she arrived wholly without fatigue. On the evening of the 16th, and morning of the 17th, she was fed sparingly on wheat bran and hay, after which she was led a short distance to a smith for shoeing, was allowed no food at noon, and was cast for neurotomy at 2 P. M. of the same day. She was cast with ordinary sidelines and surcingle, all four feet being securely fastened to the surcingle rings, well up on the sides of the chest, the fore feet being alternately released for operating.

Low neurotomy was performed on both fore feet by a student who had not previously attempted the operation, the work being as promptly and skillfully performed as could be expected. The patient struggled violently and persistently throughout and upon her release got up without assistance or unusual effort and walked to her stall, apparently weak and stiff from her confinement, but without suggestion of grave injury. At 10 P. M. she was down but apparently comfortable and was left for the night without suspicion of anything unusual.

On the morning of the 18th, it required the aid of two men to assist her to her feet. She was then with difficulty walked to an adjacent stall and placed in slings. Examination showed the two ileo-spinali muscles, as well as the gluteals, much swollen, hard and tense, the left side being most severely affected. The urine was abundant and of a dark chocolate color characteristic of azoturia.

As is usual in severe or moderate cases of azoturia, the slings could not be borne, and the patient was lowered to the floor and well bedded. Becoming uneasy again after some three hours, she was once more lifted to her feet and placed in slings, and was then found able to remain in them, bearing her chief weight on the feet. She was accordingly left in the slings until the morning of the 19th, when she had so far recovered from the attack that the slings were discontinued and the patient got up and down at will. She ate fairly well and drank a moderate quantity of water. The tumefaction of the muscles appeared to decrease for a time without medication, but soon began to increase.

On Feb. 22d the great dorsal muscles were enormously swollen, hard, tender, hot, standing up above the spinal column, the course of which was marked by a furrow, the affected muscles standing out clearly from neighboring structures, thus marking as clearly and with as great detail the exact area of the dorsalis muscles on each side from withers to the loins as could be done by a dissection, the tumefaction extending backward and including to some extent the gluteal muscles also, and to a lesser

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degree the posterior muscles of the thigh (semi-membranosis and semi-tendonosis), rendering the patient quite stiff in her movements and causing her temperature to rise to a maximum of 103.4° F.

On the 23d there was little change in condition except some cedematous swelling about the sternum and in the limbs, the cedematous condition involving the operative wounds, causing the bandage to be saturated with serosity, but not otherwise affecting them unfavorably.

Up to this date in conformity with my usual practice, no medication had been applied; but to relieve the complications present, diuretics were ordered internally and an anodyne liniment to the affected muscles.

On the 24th there was a general improvement, the muscles were less hard, the swelling decreasing and all seemed so favorable that the medication was relaxed, and on the following day, the improvement continuing, it was discontinued and out-door exercise permitted for a short time.

On the 26th, while the general condition of the patient was quite satisfactory, it was seen that the great dorsal muscles were commencing to waste rapidly, and having seen two previous cases of severe strain of these, due to casting with side-lines, both of which, without the coincidence of azoturia, resulted in extreme atrophy, it was at once concluded that in this patient, too, the atrophy would prove rapid and complete.

On the 27th the atrophy continued with great rapidity and on the following day it was seen that the left gluteals were involved also to a moderate degree.

On March 1st, the atrophy of the great dorsals was complete, giving the appearance of the subcutaneous excision of the entire muscles from withers to loins, leaving a deep, wide furrow on either side of the spinal column, the dorsal spines of which stood up sharply.

The general improvement was rapid, so that on March 3d, she was discharged convalescent, the operative wounds entirely healed without scar, the appetite and general health good and

without apparent weakness from the extreme muscular atrophy, and travelled home, a distance of fifteen miles, without difficulty.

While this case points clearly to the possibility of azoturia as a casting accident, it suggests perhaps with equal force the possible coincident production of both a strain and azoturia of the same muscles, tending to confusion in diagnosis and treatment. We have no differential symptoms of a local character between the two, although the one is admittedly a local affection, the other a constitutional malady, the exact character of which is an unsolved problem. In fact, the only grounds for the opinion that the two coexisted in this case are that we had present the pathognomonic constitutional symptoms of azoturia, with the history of violent struggles of the animal under conditions which had previously in our experience produced severe strain of the great dorsal muscles without azoturia, the eventual results of which were parallel in all cases.

The tumefaction of the great dorsal muscles and their later severe atrophy belong quite as much to the one as to the other of the two affections.

It has been already noted that immediately prior to casting the patient for the operation she had been sparingly fed and had had very slight exercise, each of which tended to obviate azoturia, and would generally have sufficed, and left us in a somewhat difficult position to explain the occurrence of the disease. Later we discovered that for a period of 20 hours prior to casting she had been deprived of water, an element not generally reckoned with in the etiology of azoturia, although we have ventured to suggest a parallel line of thought in a prior article in the REVIEW.* Therein and elsewhere we have held that azoturia is due to certain definite conditions having for their antecedents well determined historical data following each other in an unvarying sequence.

a A sound animal with exalted nutritive powers not drawn upon by disease, pregnancy, rapid growth or senile wasting.

*"Pathology of Azoturia," etc., AM. VET. REV., Vol. XIV., p. 172.

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b An abundant nitrogenous diet without overfeeding to the extent of impairing digestion, absorption or nutrition.

c A period of labor which instead of producing poverty or emaciation shall bring about a vigorous and robust state of the entire body, especially of the nutritive and muscular systems.

d A *brief* cessation from labor with more or less completely enforced rest extending over a period of one to ten or possibly rarely more days.

e An abrupt termination of the brief period of enforced idleness by labor or other severe exertion, during the first one, two or rarely more hours of which the susceptibility to the malady is manifest, after which the equilibrium of the system is restored and the possibility of producing azoturia ceases.

In studying the effects upon the physiological state of the animal induced by the environments in the sequence related we find in :

a A system prepared for intense nutritive activity, reaching beyond the general requirements of the body.

b A diet fitted to produce a high state of nutrition, especially a highly nitrogenous blood supply, abundant in quantity and quality.

c The period of labor intensifies, per necessity, the nutritive activity which is met by the abundant food supply, increasing the amount of the red blood cells and other nitrogenous constituents of the blood, muscles and other tissues without augmenting in a like degree the water of the blood and other nutritive fluids ; a state in the highest sense physiological and capable of indefinite maintenance.

d The nutritive functions stimulated by the preceding conditions attain a high degree of perfection and acquire what we may term a momentum capable of continuation during a *short* but not *long* period of rest with the usual rations, resulting in the accumulation in the blood of an unnecessary amount of nutritive material, rendering that fluid still richer in solids and comparatively poorer in water, producing a state which we may term qualitative plethora, and which, though perhaps perfectly

physiological, can only be temporarily maintained, but during which period a comparatively slight disturbance of the equilibrium may bring about results of a grave pathological character.

e Finally the period of sudden exertion causes through the arousing of sweat and other secretions a rapid withdrawal of water from the blood, while at the same time solid products of tissue waste are promptly thrown into its current, the two factors combined serving to render it so far sub-normal in its relative amount of water that the resultant density makes it impossible for the blood current to pass normally through the capillaries, leading rapidly to blood stasis, extravasation, necrosis of the blood, breaking down of the red blood cells, their resorption and eventually excretion by the kidneys—hæmoglobinuria.

It has been experimentally shown that a muscle at work requires about 75 per cent. more blood than the same organ at rest, and we constantly observe that locomotory muscular contractions offer the greatest physiological resistance to the blood current, increasing the number and force of the heart's beats. We should then expect to and do find that the blood stasis occurs in the capillaries of the great muscles of locomotion, with engorgement of arteries and capillaries, extravasation of blood into the muscular tissue, with tumefaction, pain and eventually paralysis of the part, followed in many instances by atrophy of the affected muscles.

If this line of reasoning be correct, we would anticipate the greatest changes in those muscles most violently exercised, hence in azoturia produced by locomotion we should expect the disease to exert its chief force upon the gluteals and the ilio-patellar group of muscles, while in a casting accident like that related the latter group would wholly escape, while the great dorsal muscles would prove the salient point of attack, the gluteals and posterior femuro-tibial group participating.

In the typical case of azoturia one of the most evident symptoms is the knuckling over of the posterior metatarso-phalangeal

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articulations, due chiefly if not wholly to the grave lesions in the ilio-patellar muscles, but in the case related, the affection of these parts being wanting, this symptom too was absent. This case affords special support to our view of the pathology of the disease, since although the patient had been somewhat restricted in diet and very gently exercised, which would under ordinary conditions have prevented the disease, yet these were more than counterbalanced by the extreme water starvation which should, if our contention be true, be even more effectual in the production of the disease than the slight and brief decrease in the amount of food and the very deficient exercise immediately prior to the casting in its prevention.

These circumstances lead us to believe that the causing of animals in a state bordering on azoturia to drink freely of water just prior to their first labor after a period of rest would tend to prevent in many cases the advent of the disease, and emphasizes the importance of relying in our treatment of azoturia, as we have long done, chiefly upon inducing the animal to consume as much water as is possible, and lends force to the belief which we have for some years held, but not tested, that the most efficient and rational treatment for the disease in its initial stages consists of the intra-venous injection of water or a $\frac{1}{2}$ or 1 per cent. solution of sodium chloride.

WHY?

BY W. L. RHOADS, D.V.S., LANSDOWNE, PA.

A Paper read before the Pennsylvania State Veterinary Medical Association, March 3, 1897.

Why, my fraternal brothers, you ask, have I chosen such a subject. *Why* it allows me scope for a number of inquiries and assertions as the subject would of itself suggest.

Why are we veterinarians, as a class, prone to travel our own individual route or rut? I use the latter term advisedly, for too many of us are at present wearing a rut, or perhaps a myriad of ruts, which will be found very hard to leave when we are at

last awakened by the onward movement of the Juggernaut car of Science, which we will find overtaking us in the natural course of events, unless we now take hold of the work before us and live according to the revised reading of the old axiom: "That all things come to him who waits"; this, in accordance with the times, has added to it, "and hustles while he waits."

Are not periods of depression in our work times when we are taught to note how narrow has become our sphere of work and how great the field of our possibilities when properly managed? Lowell has said, "to a healthy mind the world is a challenge of opportunities."

Why not make these times of waiting hours of improvement that we may more thoroughly grasp our whole duties; that we may be better able to cope with the difficulties and dangers that constantly beset us on every side.

We should remember that absence of occupation is not rest. "A mind quite vacant is a mind distressed." *Why* wait around aimlessly with your thumbs thrust in the armholes of your vest, or possibly stuck deep into otherwise empty pockets? If you think you are posing, let me make a suggestion, don't continue in that line. Veterinarians, as a rule, make poor artist's models; about one in a thousand succeeds, and you are not the man. You stand just as good a chance for a foreign mission, and you cannot get that until all the good after-dinner speakers have declined.

Why not use this time in attending and assisting your local veterinary medical associations? *Why* not at least answer the invitation tendered you to do so? *Why* is it that not three per cent. of the veterinarians so honored are enough interested to answer the same? Is it due at this time to a rush of business or on account of the exorbitant price of postal cards? *Why* do you consider your fellow-practitioner less worthy of an immediate reply than any other correspondent. Are you interested in the profession only so far as it has a monetary value to you directly? If your interest is of a broader gauge, and I trust it

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is, why not show it by granting your fellow-practitioner an early reply to all correspondence? *Why* not show your interest in a more potent form by attending the meeting of your local veterinary medical association? If you are not a member, go as a visitor. You will always find the latch-string out, or in later phraseology, "Just press the button, and they will do the rest." You will soon become so interested you will realize your need of association fellowship and wonder how you existed without it. Or probably you are one of those who are willing to enshroud themselves in a mantle of egotism, and feel the meetings of the association unworthy of their attendance and support. Yes, I meant to use the word shroud, as such an article will be useful in their early professional burial. Do you not realize the rapid advancement of our profession is due in a great measure to our associations? Then why are you contented to continue your parasitic existence? You cannot even be considered as a sponge, for it will upon pressure or by slow evaporation give out all it has taken up.

Why not give to your fellow-practitioners at these meetings, or through the medium of the veterinary journals, more of your cases and experiences, that all may be benefited and our worth to our people enhanced all over the land; some one may be encouraged and enthused by your effort to lighten the burden of the veterinarian, and in return may suggest the idea you have been groping after for years. *Why* not be willing at all times to give your professional brother a light off your cigar; he has gained, you have not lost, perhaps gained also by the aroma of his probably superior Havana, which had been useless to him till the procuring of your assistance? *Why* not be ever ready to reach out the right hand of good fellowship and assist each other? Not willing to do it only on demand, but proffering it at all times, thus showing to your professional brethren that you have an object in life; an object which in your case deservedly begins with a capital O.

What do we live for if it is not to make life less difficult to others? *Why* not, in furtherance of this same end, take a

greater interest in public affairs and thus loan your valued influence to better government throughout the land? We, as a profession, take little appreciable interest in politics, and why? Is it because we are afraid of crossing our clientage? Can we not well afford to do without the practice of the narrow-minded cynic who ceases to employ us when we but prove ourselves capable of administering to his stock, prove we have a mind capable of independent thought by being men enough to assert the courage of our political convictions? *Why* is it that we find so few veterinarians on our local boards of health when they are so well prepared both by education and training to act as sanitary experts in perfecting the healthfulness of the meat, milk and food supply of a community as well as the sanitary surroundings?

Why is it that the veterinarians will vote and in many cases assiduously work to accomplish the desired ends for probably a valued client to us, financially, yet as a politician he may be a ringster and a spendthrift with the public moneys? Moneys which too many of the legislatures of to-day feel it a duty to spend in many cases wantonly and recklessly. Yet this money all comes through the channels of taxation from the individual who demands that the public receive it in a way which guarantees the greatest good to the greatest number. *Why* are our veterinarians assisting in this robbery of the populace by charging exorbitant fees for public work? Fees which in many cases trebly repay them for that day's loss of private practice. Are you not putting a stumbling block in the way of the furtherance of just such work? It is true a stumble may prevent a fall, but it is not well to stumble too often, it looks suspicious and may cause rumors; you will then have to ask yourself *Why?*

Why will our members deride and criticise legislation already gained (which, though probably not what we would like it to be, is yet a stepping stone to better), when they absolutely refuse to loan their assistance toward the procuring this much-to-be-desired article? *Why* is it the men most loud in their

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protests against it, the ones always ready to illustrate its faults, are the ones who positively would not lend their assistance in its preparation that it might have been free from the defects against which they cry out? *Why* will our members try to break down good laws that many of them have sorrowed over in the past because they did not exist? *Why* will members of the veterinary profession, who believe in the merit system of appointment see it endangered for their own selfish ends when they know that for their own gratification lasting but for a few short moments at best they endanger a system which all aim to perpetuate in their own professional career?

Why not pause a moment to think? You will then realize your efforts for self-aggrandizement at the expense of your fellow men are of the boomerang character and they are apt to turn upon the projector. Such work in the end will receive such recompense as it merits.

"Who by aspersions throw a stone at the head of others hit their own."

Why will the young men of to-day deride and criticise the older ones in practice with whom they come in competition? They fail to realize their position as practitioners has been made possible by these same men who have worked shoulder to shoulder early and late when there was little apparent honor in it; at the same time breaking tidal wave after tidal wave of ignorance, arrogance and depression, they knowing full well that good intentions clothe themselves with sudden power.

Why is it that so many will be fully aware of many things punishable yet apparently fail to see them until they begin to encroach upon forbidden personal territory; then the cry of anguish is raised, and you are surprised that you are not immediately lifted out of the quagmire into which you persisted in going? *Why* not come out boldly at the first offense, at the first trampling upon your rights assert your manhood and professional standing, for right is right, and wrongs no one? *Why* not go through life bearing the load which the contingency of the times has thrust upon us, and bearing it with honor; a credit

to ourselves individually, and to the profession as a whole? The time is not far distant when we as a profession will become the guiding star of a whole nation. As sanitary humanitarians, are you in a condition or are you preparing yourself to share your portion of the burden? If not, why?

You are certainly not doing it by showing your preference for the literature contained in horse journals and agricultural magazines when our professional ones contain so much that is not only beneficial, in an educational way, but is interesting not alone by its association but on account of its true worth. *Why* is it in the face of this fact but one in every four North American veterinarians subscribe to and support their own professional literature? It is true our country has been bordering on a panic which, thanks to the keen foresight and business training of the American people, has been averted. Yet, is that just cause for your making an auction mart of your profession? If not, *why* do you offer bargain counter prices? Prices which you well know when once cut are so difficult to restore in times of prosperity. *Why* do veterinarians aim to establish prices for surgical work that are no just compensation for the skill required, and which cannot do otherwise than lessen the worth of the work in the eyes of laymen and the general populace? *Why* will you take contract work at prices that are not half compensating and thus lessen the volume of income to yourself individually and lower the estimate value of the work generally?

Why do veterinarians, many of whom have been educated at the supposedly better schools, feel that quackery is a paying branch of what would otherwise be a wholly honorable profession? *Why* do they feel that placards bearing pictures and self-laudations wholly unprofessional in appearance and their work when it only tends to lower them in the public estimation? *Why* do we not impress upon the dairy people of this State the urgent need of stringent police measures and the enforcement of the same, that they may know all cattle brought into the State to replenish their herds are free from all infectious

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and contagious diseases, when the losses already incurred by this source are assuming a serious aspect as regards the dairying interests and threaten to become a barrier to the continuance of the valuable control work now going on? Work, which at this time must not be stopped, and which can be best perpetuated by the veterinarians individually assisting it, for we live in deed not years; in thoughts not breaths, in feelings, not in figures on a dial.

WHAT PROFESSOR BANG'S WORK TEACHES.

BY LEONARD PFARSON, B. SC., V. M. D.

A Paper read before the meeting of the Keystone Veterinary Medical Association,
March 9, 1897.

Professor Bang of the Imperial Veterinary School in Copenhagen, Denmark, is one of the greatest authorities on tuberculosis of cattle. His researches in this field have been published from time to time during the last fifteen years and to him belongs the credit of having first discovered and called attention to many of the facts in connection with this disease that were previously unknown, but have since been repeatedly observed and redemonstrated.

Prof. Bang's country is one of the smallest of Europe, but its inhabitants are thrifty, frugal people of a high order of intelligence and much conservatism. They depend largely, if not principally, upon the dairy for their support, and although the country has a population of but 2,200,000 and an area of but little over 15,000 square miles, about one-third the area of Pennsylvania, there are in Denmark about 1,700,000 cattle (approximately the number in Pennsylvania).

To illustrate the importance of the dairy it may be stated that in 1890 Denmark exported more than \$22,000,000 of butter and more than \$2,000,000 worth of cattle. This amounts to more than \$10 for each inhabitant of the country. It has been known for a long time that tuberculosis is a widespread disease among the cattle of Denmark and various measures have been recommended and applied with a view to its suppression.

From the above statistics it can readily be seen that the subject is one of great economic and national importance in Denmark because it involves the foundation of the principal source of the country's wealth and prosperity. In 1892 an appropriation was made by the government for the support of investigations to be carried out by Professor Bang for the purpose of determining the most practical means to be employed in restricting the ravages of this disease. The appropriations have from year to year been renewed and increased until at present they amount to about \$30,000 per annum.

This government work has been conducted on such a large scale and in such a thoroughly careful way that the results are more instructive than those derived from similar experiments conducted elsewhere at any time. One of Professor Bang's recent publications was translated by the Hatch Experiment Station of the Massachusetts Agricultural College and published as Bulletin No. 41 in August, 1896, and this Bulletin has been referred to and quoted from so frequently that Prof. Bang's name is now well known among readers of agricultural papers and those who take an interest in the discussions on tuberculosis of cattle. It is always possible by quoting disconnected sentences and isolated paragraphs to give an inaccurate and sometimes a very misleading impression as to the author's opinions and statements, and this has occurred in reference to the writings of Professor Bang.

The undersigned has been familiar with the work of Professor Bang for a long time and has given his numerous publications careful study, which has been supplemented by conversation and correspondence with their author. The lessons that may be learned from Professor Bang's writings and experiments are so important to us in this country at the present time that it seems well to formulate some of them and to attempt to express them without ambiguity. Among the most important are the following:

Prevalence of Tuberculosis.—It has been known for a long time that tuberculosis prevailed extensively among Danish

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cattle, but the actual extent of the disease as revealed by the use of tuberculin was something of a surprise. In testing more than 53,000 cattle it was found that 38.5 per cent. of them were tuberculous to a greater or less degree. Moreover, it has been shown that the germs of tuberculosis are not omnipresent, because many herds are entirely free of all traces of this disease and in some of these healthy herds the cows were large producers of the class.

Degree of Contagiousness of Tuberculosis.—It has been clearly shown that the longer the disease exists in a herd the greater is its prevalence, leading to the belief, which is substantiated by other observations and experiments, that long continued contact is necessary for the extensive prevalence of tuberculosis in the herd and the longer such contact has existed the more extensive will be the spread of the malady. That some herds remain healthy notwithstanding the fact that they have been exhibited at cattle shows and in public places where they must inevitably have been exposed to the germs of tuberculosis for a short time, indicate that such exposure is not always dangerous. The infection in many herds has been traced to the introduction of a single diseased animal.

The Infectiousness of Milk.—The milk from tuberculous cattle has been known to produce tuberculosis in calves and swine in very many cases and also, strange to say, in such a comparatively immune animal as the horse. Attention is called to the dangers that accompany the use of skimmed milk from creameries, because if part of this milk is supplied by tuberculous cows and the mixed product is returned to the farm the disease may in that way be communicated to healthy herds, and common observation has proved that this is not rare. It is advised to heat all such skimmed milk to 185° F. before it is used. This destroys the tubercle bacilli.

Heredity.—Tuberculosis is rarely inherited and in all but the most exceptional instances the calves of tuberculous cows are sound when they are born and if removed from contact with tuberculous animals and fed on milk from sound cows or milk

that has been heated to 185° F., they will remain free from tuberculosis.

Tuberculin as a Diagnostic Agent.—The prevailing opinion as to the accuracy of tuberculin as a diagnostic agent is amply sustained and it is established that the use of tuberculin furnishes by far the most accurate means of detecting tuberculosis and permitting the inspector to separate the healthy and diseased cattle. It is made clear that the degree of reaction does not indicate the extent to which an animal is diseased and that a high reaction may sometimes occur in an animal that is but slightly affected, and it is stated that from the degree of reaction conclusions as to the development of the disease must be drawn with great care. The reported failures to discover the lesions of tuberculosis in making post-mortem examinations upon animals that have been condemned by the use of tuberculin, are incorrect in great part, since practically all of the tuberculous animals killed in European countries are killed in slaughter-houses and their flesh is intended for the market after inspection and under certain restrictions and exceptions, so it is quite evident that all parts cannot be fully investigated and doubt always accompanies a negative result.

Professor Bang's personal experience, which is larger than that of any other veterinarian, has shown but three cases of typical reaction in which it was not possible for him to discover tuberculous deposits and in one of these there was disease of a chronic and incurable character. It is stated, and this is well known to everyone who has used tuberculin practically, that some severe cases do not respond to the test and must be detected by a physical examination, and Professor Bang says that it is probably always possible to discover these cases by the usual clinical investigation, excepting where the disease has become stationary and is of slight development. These exceptions are minor and unimportant. Tuberculin is not to be relied upon implicitly as a diagnostic agent, but furnishes a method of diagnosis so incomparably superior to the methods previously employed that it is scarcely to be compared with them.

Dangers attending the Use of Tuberculin.—After an experience extending over 53,000 cases Professor Bang is of the opinion that tuberculin is not injurious to healthy animals and that it cannot injure tuberculous animals, excepting by causing the disease to advance more rapidly and that "such an acute development of tuberculosis as a result of tuberculin injection is to be feared only exceptionally and then in case of advanced tuberculosis."

His final conclusion is "that we have now found that in tuberculin we possess if not an absolutely infallible, still an excellent means for recognizing tuberculosis, and that its application is not connected with any particular danger," and it is also stated that "tuberculin has been employed upon a large scale for years and still the demand from farmers constantly increases."

The Use of Infected Cattle.—In Denmark it is evident that if all tuberculous cattle were at once destroyed without compensation to their owners the result would be widespread financial distress and ruin and it is out of the question for the Government to attempt to pay for all of the tuberculous cattle, because the amount that would be required for this purpose is beyond its resources. Therefore another method has, perforce, been adopted, which consists in the retention of the animals that have reacted to the tuberculin test and their continued use for breeding, for milk production and for the shambles. It has been found that under certain precautions all of these can be done safely and the saving is so great that a more radical method would under the circumstances be unjustifiable; but it must be observed that the tuberculous cattle are kept alive only in perfect isolation from healthy cattle. They are cared for separately and when possible by separate attendants. They are kept in separate buildings or in distinct and completely separate sections of a common barn. Their calves are removed the day after they are born and are brought up on milk that has been heated to a point that will insure the destruction of the tubercle bacillus. Their milk is used for the manufacture of butter (principally for export to England),

but only after it has been heated to 185° F. In this way healthy herds are being developed from tuberculous ones and as the tuberculous cattle die or are killed for beef the reacting division of the herd becomes smaller and smaller until finally it has disappeared, and thus tuberculosis is being allowed to die a natural death.

The Curability of Tuberculosis.—Occasionally tuberculosis becomes latent after an animal has reacted to tuberculin, the subject improves in condition and fails to react upon subsequent injection, so that it may not be possible to confirm or reestablish the original diagnosis. This takes place most frequently in the cases that are less advanced, and some have thought that such cases might be cured. In order to throw light on this question Professor Bang killed and made post-mortem examinations upon four animals of this sort, but found that they all had tuberculosis, and states that "I therefore do not venture to draw from these observations the conclusion that these animals that failed to react one year after a typical reaction are to be regarded as cured. In many cases this conclusion would perhaps be justifiable, but as it cannot always be the case I consider it advisable to look upon animals that have once shown the typical reaction as suspicious and to leave them in the reacting division."

Heredity.—The matter of inherited predisposition to tuberculosis is considered and some doubt is thrown upon its influence and even its existence, and there is no reason to assume "that a calf whose sire or dam suffers from tuberculosis accidentally acquired has thereby inherited a predisposition for tuberculosis which offers a more favorable nutritive soil for the development of the germs of tuberculosis and the predisposition, however great it may be, can play no practical part if infection is avoided."

The Use of the Flesh of Tuberculous Animals.—Under proper inspection and certain restrictions and exceptions it seems to be quite possible to use the flesh of some tuberculous animals without danger, and such is the practice not only in Denmark but in all other European countries. Some carcasses

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are condemned outright and destroyed. Others are sterilized and sold as cooked meat, while still others are allowed to go upon the general market without restriction or with the information that it is derived from tuberculous animals, so that those who purchase it may use it with special care. These measures are generally regarded as sufficiently rigorous.

It is Possible to Eradicate Tuberculosis.—Most important of all, Professor Bang has shown that by the use of tuberculin and measures based upon its use it is quite possible to eradicate tuberculosis in herds. This he has demonstrated on such a large scale in so many instances that there can be no doubt about it. Moreover he has shown that by the employment of the Danish system the suppression of tuberculosis can be accomplished at comparatively small expense and that the measures inaugurated in Denmark are constantly growing in popularity among live stock owners.

His conclusion as published in Bulletin No. 41, above referred to, is as follows: "The struggle against bovine tuberculosis must of course be of several years' duration, but it can and must be crowned with victory. In this struggle tuberculin has yielded us invaluable service. Only with the aid of this agent can we determine the actual extent of the disease. On the basis of the tuberculin investigations we are already in position to establish a rational plan of operation and by this means alone can we retain the advantages gradually won; but the contest is well worth the pains. The conquest of bovine tuberculosis promises not only large economic profit, but also the annihilation of an important source of human tuberculosis."

AN INNOVATION in Horse Show contests occurs at the coming Philadelphia exhibition. Five coaching men have entered for the road contest, which consists in a drive from Broad and Walnut streets to the grounds at Wissahickon, a distance of fourteen miles. Must have not less than 3500 lbs. and cover the distance in not more than 75 minutes. The turnouts will then be judged on the condition of the horses and the appointments of the coach or drag.

VETERINARY SCIENCE AND ITS RELATION TO THE PUBLIC HEALTH.

BY J. F. KENNEDY, A. M., M. D., SEC. IOWA STATE BOARD OF HEALTH, DES MOINES, IOWA.

A Paper read before the Iowa State Veterinary Medical Association.

Mr. President and Gentlemen of the Iowa State Veterinary Medical Association :

Your secretary in asking me to present at this meeting a brief paper for your consideration, was kind enough to suggest the topic which I have selected—"Veterinary Science and its Relation to the Public Health."

My subject therefore naturally resolves itself into two general divisions.

1. Veterinary science.
2. Its relation to the public health.

It is but a comparatively few years since veterinary medicine has been lifted from a basal position among the professions—from the domain of rank empiricism to the honored and dignified position of a science—a noble, beneficent and liberal, if not literally humanitarian science.

The whole world of science owes a debt of gratitude to Chauveau, Wesley Mills, Fleming, Liautard and a score of others because of their earnest, well directed and efficient work in the field of comparative anatomy and physiology.

Forty years ago, when I studied medicine and attended medical lectures at the Jefferson Medical College in Philadelphia and at the University of New York City, there was no instruction whatever in our text books, or in the lectures delivered by the ablest teachers of the country upon these branches. The educated physician of that day knew little more about comparative anatomy and physiology than the uneducated "horse doctor" of to-day, or at least was not required to know more.

The whole science of medicine and surgery, whether applied to man or beast, is almost being revolutionized—and largely by experiments upon the lower animals. Every advance in pre-

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ventive and restorative medicine is a benefit to both man and beast.

Prof. Wesley Mills, the able lecturer on physiology in the faculty of human medicine and in the faculty of comparative medicine of McGill University, Montreal, Canada, in an address to the graduates of the veterinary department of the university in May last, said beautifully and truthfully :

" Medicine is, as applied to man, no longer a system of blind empiricism, nor, as applied to the lower animals, a combination of that with farriery. The barber surgeon and the farrier are but landmarks in the history of the evolution of medicine. Gentlemen, there is but one animal kingdom, governed by the same natural laws, applicable alike to man and his fellow creatures, lower in some respects, in the scale, but sharing with him the liability to disease and death.

" Comparative medicine is the medicine of the future and the sooner that is realized the better for man as well as beast. Indeed, we now grasp the future—the present touches its skirts. Specialism, or division of labor, will be necessary, because the powers of individuals are limited. Some will elect to treat the lower animals, and some mankind, with even further subdivision; but there is only one science and art of medicine ; and all the various bodies of workers in this vast field should form but different battalions of one great army fighting for the prolongation of vigorous life and the mitigation of pain in every quarter to which the power of medicine can reach."

Medical men and teachers in our medical colleges are everywhere coming to realize these facts. The veterinarian of to-day, who has been properly educated, goes out from his college qualified not only to practice his profession, but to enter the best medical colleges in the land with advanced standing.

How changed the relation of the educated veterinary surgeon of to-day ! The time was when, within my own memory, he was assigned a secondary or inferior place when compared with the human physician or with those of the other learned professions, but now the well equipped D. V. M., everything else being

equal, takes his place in the scientific, social, moral and commercial world along with the ablest jurists, physicians, clergymen and educators !

It seems to me from a diagnostic standpoint the veterinary practitioner should be even better equipped than the physician. The latter is greatly aided in his efforts to arrive at a proper diagnosis of the disease of his subject because of his ability to speak and to understand language. The subject of the veterinary surgeon, on the other hand, is mute. The character of the disease, its location and progress can only be learned by a sign-and-symptomatic language only acquired by patient study, thorough acquaintance with the anatomy, physiology and pathology of the animal, and by clinical observation ; and these same qualifications must be adapted to the horse, cow, sheep, poultry etc., as individuals differing greatly. Hence, though he may not be able to speak the language of the domestic animals, he must be able to readily understand their speech as voiced by their physical condition. Another reason why the veterinary surgeon should be thoroughly competent is that his subjects have no choice. They are entirely subject to the choice of their owners, who may from ignorance, prejudice, or mistaken economy select some one, if there are any such, who don't know the difference, anatomically, between a horse and a chicken, much less between a cow and a hog, and whose treatment is about as scientific. For this reason and because of the vast sums of money represented by the domestic animals of Iowa, the highest possible qualification should be required of those who enter upon this practice.

It seems to me a burning shame that in this intelligent State of Iowa, and in this enlightened day, any man without any knowledge whatever of veterinary science, without knowing even the A, B, C of the anatomy of domestic animals, can swing to the breeze his sign as "veterinary surgeon" ; and there is no law to inquire into his qualifications, and no power to regulate his practice.

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man who insures his property against fire and tornado, or his person against death or accident; the railroad corporation that hauls his produce to market; the bank in which he deposits his money; the dentist who pulls his teeth; the physician who treats himself and family, and druggist who compounds his medicine are all subject to statutory provisions, but when sickness and plague attack his flocks and herds and threaten their destruction, and endanger even the lives of his family, the law reaches out no guiding hand. The unprincipled and ignorant charlatan has an unchallenged standing before the law and often by his brazen effrontery and "stud-horse" advertisement enjoys a more generous patronage than his educated, competent and honorable rival.

It seems to me, therefore, that one thing the people of Iowa need is protection—legal protection against this dishonorable and dangerous class of pretenders, and you will pardon me gentlemen, if I suggest that it has seemed to me that you have been somewhat disposed to waste a good deal of ammunition in criticising some of your own advanced methods of experimentation, diagnosis and treatment rather than in closing up your ranks and making the united effort you should to secure the standing before the law you are so justly entitled to.

But enough on this point. Your "Relation to the Public Health" is a most important one, and is so far recognized by the State as to provide for the appointment of a State veterinary surgeon, and to make him a member ex-officio of the State Board of Health.

The State Board of Health and the Dairy Commission have large claims upon you. I hope the time will soon come when the latter, if it does not have it now, will have ample authority and financial aid to enable him not only to determine the butter fat in a given quantity of milk, for commercial purposes, but the sanitary quality of the milk, butter and cheese. I would go much further. I would not limit his function to the dairy, but I would make him a dairy and food commissioner, with adequate legal and financial backing to do thorough work. However, to

do his present duty—to insure a wholesome quality of milk, butter and cheese, he must depend very largely, if not almost wholly upon you. There must be inspection of the herds from time to time, as to their freedom from tuberculosis and other infectious and communicable diseases. Their food and drink, the condition of their stables, the methods of milking and of taking care of and marketing milk. In fact, all the sanitary or unsanitary environments must be known. The intelligent veterinarian is the only person from whom he would expect to get this information.

The State Board of Health and its auxiliaries, the local boards, are under the law charged with supervising and protecting the lives and health of the people; and as there are so many of the infectious diseases of animals that are communicable to man, you will readily see the great interest these boards have in your profession and work.

It is not necessary to take the time even to name the various diseases of domestic animals that are common, or at least communicable to man. You are perfectly cognizant of them. Because their presence in the animal is a constant menace to the public health the State Board of Health depends upon your profession largely for protection.

It is the proper function and duty of your profession to insure to the people of the State as early a recognition of, and as effectual protection against, the invasion and spread of these diseases as possible.

A great deal of distraction, demoralization and damage have arisen from the attempts to prove how extensively an animal may be diseased to render it unfit for human or animal food—especially in regard to such diseases as tuberculosis and actinomycosis and their ability to render meat and milk from animals so diseased dangerous.

I think there has been, in settling these questions, too much deference paid to those short-sighted breeders and stockmen who care but little what the ultimate results are so long as they can line their pockets.

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Let me read to you what an able, honored and fearless member of your profession said in an address, as retiring president last June—I mean Dr. Harbaugh, of the Virginia State Veterinary Medical Association.

"We have," he says, "to fight a monster which stretches forth its arms in all directions and clutches with its grasp all who can be controlled by fear, favor or value received; and this monster is the wealthy breeding interest which makes a hobby of high-priced pedigreed cattle until it tires of them and then unloads them on the unsuspecting dairyman to infect his smaller herd with tuberculosis. Even from our standpoint there are two sides to this tuberculosis question. The first is the public health; and I care not whether a man believes there is much or little danger in using the milk or flesh of tubercular animals through risk of transmission of the disease to the human being, it is certain that such milk and flesh ought not to be used. Milk is a part of the cow, and therefore animal matter, and if the cow is tuberculous her milk is part of a diseased cow, and should not be used for human food. The same proposition applies to meats from tuberculous animals, no matter how thoroughly sterilized, and it disgusts me to hear our would-be veterinary politicians talk of using such meats the same as they do for the lower classes of Europe, when we have meat to spare for the world. No, gentlemen, we are not in Europe and do not have to devour diseased products to prevent starvation. Let us be consistent and fight against all diseased animal products being used for human food.

"Another thing that surprises me is that there are veterinarians occupying high places who have the effrontery to tell us milk from tuberculous herds, when fed to pigs, produces the same disease in them and that there is little danger of producing it in human beings!

"These are breeders' opinions, whether uttered by veterinarians, agricultural journals or other hirelings. No man who sees the post-mortem lesions of a few tuberculous cows wants milk from any such animals in his house, danger or no danger."

I like Dr. Harbaugh for his sensible views, so fearlessly and and forcefully expressed.

The farmers of this State, especially the hog raisers, are appealing to you to protect their swine against the ravages of that fearful disease, hog cholera, that often in a few days sweeps as with the "besom of destruction" not only their hope of added wealth, but often the only means of retaining their homes.

There is one line of investigation and experimentation in connection with this particular disease that I wish to specially emphasize—I mean the great similarity, if not identity, of hog cholera and typhoid fever as it is manifested in the human subject.

Our honored State Veterinary Surgeon, Dr. Gibson, at a late meeting of the State Board of Health, read a most interesting report prepared by Dr W. T. Wright, of Vail, Crawford county, detailing an outbreak of typhoid fever in a farmer's family near Vail. The father and four daughters, who lived at home, and another daughter who was visiting in the family, all took down with typhoid fever—only two of the family, the mother and a young son, escaping. The father died—all the others, after a lingering illness, recovered. The well that supplied the family, as well as the stock, with water was situated in the lowest portion of the hog lot. The father and five daughters who were attacked with the disease, used freely of this water. The mother and son who did not use it at all, escaped. Previous to this outbreak of typhoid fever the hogs kept in this lot had had hog cholera in a severe and fatal form. Dr. Wright was led to examine carefully the symptoms present in the hog cholera cases and was struck with the marked similarity between the symptoms of these typhoid fever patients and the cases of hog cholera, and was driven to the conclusion that there was much kinship, if not identity, between the two diseases.

It seems to me that it would be well for the bacteriologists of the State, physicians and veterinarians to thoroughly test this matter. The presence of typhoid bacillus or one akin to it should, if present, be readily detected in the excreta of the hog

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during such an attack. Should such identity be established it would not be hard to adopt more rational methods of prevention and cure. But I cannot particularize any further. If the compliment of an invitation to prepare this paper has emboldened me to proffer advice, to call attention to matters outside my limited sphere, or to presume to tell you "what manner of men" you ought to be, you may simply regard it as a blooming illustration of the saying: "Fools rush in where angels fear to tread."

THE FUTURE OF THE VETERINARY PROFESSION.

By E. L. VOLGENAU, D. V. S., NEW YORK.

One of the New York papers in a recent edition gives some startling figures as to the effect of the bicycle upon business in general and particularly its effect upon the horse and livery business. This journal puts the loss in horses and livery for the past year at \$20,000,000. The loss to pleasure vehicles is estimated at \$15,000,000, and in harnesses and saddles at \$10,000,000.

To the veterinarian these figures are significant. For the past three years the earnings of veterinarians have been steadily on the decline. Some have ascribed this to "hard times," others to the increase in trolley and cable cars, others again to the competition of younger practitioners. Each of these is undoubtedly a factor, but the main cause for the diminished earnings throughout the whole country has been the almost universal adoption of the bicycle. The main question is, has the bicycle come to stay? If the answer is in the affirmative, veterinarians will soon have to seek new fields, and other methods of earning a livelihood.

The number of horses, good, bad and indifferent that have been thrown upon the market since the arrival of the seductive wheel, has served to so lessen their valuation, that, leaving sentiment aside, it hardly pays an owner to have a horse treated for any grave illness, and the lesser derangements, which can be remedied in one or two visits, and without the loss of much time

or labor, are not frequent nor profitable enough to support many of us. From the four corners of the earth come the reports of veterinarians who are taking up other professions or trades more profitable than the honorable profession to which they have linked their destinies. Salaried positions under the state, municipal and federal governments are in greater demand than ever before, and there is an uneasiness throughout the profession which is ominous.

As long as the cattle, sheep and hog interests of the country are of such magnitude, there will always be a demand for veterinarians, but the problem in the large cities is a great one.

The young man desirous of entering the profession, had better consider well before entering a veterinary college and spending time and money in acquiring an education which will hardly net him interest on the investment. The old established practitioner who has "made hay while the sun shone," can view the situation with more equanimity than the younger men, who, in the natural course of events have their lives before them.

What are the prospects for the future? They tell us that western stock-raisers have stopped breeding horses; that sooner or later the supply having become diminished, the price will rise, and in direct proportion as horses become more valuable, so will our services be in more frequent demand, and we will be just as happy and prosperous as we formerly were. Let us see:—Upon an approximation by men who know it will take about ten years to exhaust the stock of horses now on hand, providing the demand continues as at present and no further breeding is indulged in. But here enters the horseless carriage. Ten years will take us well into the twentieth century. You laugh and say horseless carriages are impracticable, it is visionary, ridiculous to say that this motive power will be applied to delivery wagons, trucks, and the thousand and one purposes for which the horse is now used as the propelling power. Why is it visionary? Have we not had examples of changes in motive power without number? The steamboat, the railroad, the trolley, cable and electric car, and last, but not least, the bicycle.

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Who would have dreamed fifteen years ago, when the first cumbersome bicycles were built, that to-day millions of wheels would be in use all over the world, and that to ride a wheel would be considered part of a liberal education. The bicycle is no fad that will die out as the result of the violence with which it took hold of the popular fancy; but a useful invention of great practical utility, which, as roads are improved, will become the almost universal mode of conveyance.

The motor-cycle and horseless carriage, which at the present time seem bulky and impracticable, will within a short time become so improved that the horse will be supplanted.

Now comes the ultimatum. Granting that the demand for the services of our equine friends is on the decrease, where is the veterinarian to find a market for his professional skill? The municipal, state and federal offices can employ but a limited number of veterinary surgeons. The balance must of necessity be content to earn a scant livelihood by means of the deteriorated general practice, or leave the profession to engage in more remunerative employment.

The higher educational requirements for matriculation into veterinary colleges, the longer curriculum, State licensing boards and protective veterinary legislation, have done much for the profession and will serve to keep out the undesirable element. As the number of students grows less, some of the colleges being private enterprises without funded capital behind them, and depending solely upon lecture fees for their support, will of necessity be driven to the wall. The result cannot help being beneficial to the profession at large. Better have five good colleges in the United States than fifteen struggling along day after day handicapped at every turn by the lack of funds.

There always will be a demand for educated veterinarians, and as their field of usefulness broadens it will devolve upon the colleges to give more attention to the essentially scientific studies embraced in the curriculum, viz.: Pathology, bacteriology, microscopy, chemistry, hygiene, botany, sanitary medicine and meat and milk inspection. Within these fields lies

the work of the future veterinarian, and he will gain his success in life, both social and financial, not so much upon his ability as a skillful surgeon, or by his success in treating colic, fistulous withers or spavin, but upon his scientific knowledge and attainments.

Our fault has been that we have paid too much attention to the practical side of every-day practice, and often at the expense of the theoretical and experimental. We have judged other practitioners and been judged ourselves upon our money-getting powers, the ability to convert our professional skill into dollars and cents, and have sometimes been so awed by the end that we have not been particular about the means.

The bicycle and horseless vehicle mark the beginning of a new era for the veterinarian. From this time onward the marketable commodity will not be what we can do, but what we know.

REPORTS OF CASES.

THE VAGARIES OF INFLUENZA IN GREEN HORSES.

By FRANCIS ABELE, JR., Quincy, Mass.

I have usually, when I had a disease of the respiratory tract, and temperature above 105° , in a green horse, prognosed to myself influenza coming on. I will not say diagnosed, for it is too early to make a diagnosis. Last year I had a case where the temperature was 107° for three days, when the temperature steadily declined. There appeared typhoid complications, to be sure, but I hardly hesitated at the outset from the temperature alone to diagnose influenza. The horse has been at work a year now. No abscess came and no characteristics of strangles appeared.

This winter I had a horse just from the cars, with a temperature of 108° . To be certain I took it several times. His appetite was gone, respiration difficult, snuffing and showing considerable pneumonic trouble. For two weeks the temperature was very variable. After about four days I had it down to 103° . Next day it was $106\frac{3}{4}$, yet the horse appeared better. The fever was intermittent; one day up, next day down; never failing in this respect. The whole right ramus of the inferior maxilla be-

gan to swell till it appeared like a case of osteo-porosis. To make it short, I opened two big abscesses before long and the horse is at work.

From the books at my command, I see no record of such a temperature for strangles. Is it common? I seldom see it varying far from 105° .

MODERATE EXERCISE SUCCESSFUL IN A CASE OF ILIAC THROMBOSIS.

By FRANCES ABELE, JR., Quincy, Mass.

Was called to a horse for azoturia, which recovered; was led home five miles, after thirty-six hours rest. After exercising a short time he would become lame, so that the leg would not be propelled at all, and every time he was driven it would be the same. After rest it would be all right again. Suspected thrombus. Examination proved suspicion. Rectal examination after exercise showed lack of pulsation in the external iliac and metatarsal artery. Prognosed treatment useless. Now for the live-and-learn experience part. The horse was driven every day until unable to proceed, and when able moved again. At last accounts he could go five miles at a jog before being overtaken so badly as to have to halt. Since this treatment started, I noticed in the REVIEW a "foreign correspondence article" (I cannot lay my hand on it now) where this same line of treatment is recommended as the most satisfactory. Just how practical it is would seem to depend much on what work the horse was to be put to.

One veterinarian remarked to me, "What a good horse that would be to have a veterinarian examine for soundness. With nine out of ten, he would pass."

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. BIESER, D. V. S., New York City.

A NEW FOETAL ORGAN.—H. reports concerning an organ which is always present in the mouth of the foal during the last months of foetal life. It is a long flattened mass of spongy consistency, measuring in its dimensions 19.6 and 2 c.m. respectively and consists of two separate layers of dark brown color; on its surface the organ is strongly translucent; it has a cavity in its interior. H. thinks that it filters the liquor amnii by which the

foetus is nourished. If it is absent at birth, it is due to the fact of the foetus having chewed and swallowed it. M. also found an analogous product in the mouth or pharyngeal cavity, which he does not consider to be an organ, however. It consisted of mucoid albuminous layers overlying one another, formed from the buccal and pharyngeal secretions. It served as a curtain to cut off all communication between the pharynx and amniotic cavity.—(*Berl. Thierärztl. Woch.*)

DISCOVERY OF THE BACILLUS OF FOOT-AND-MOUTH DISEASE.—Foot-and-mouth disease being of a severe type in America and causing the death of many animals infected with it, needs therefore, to be put under strict veterinary prophylaxis. In Roumania the disease is of a much milder type; but still the mortality is enough to induce veterinarians and bacteriologists to hunt for the cause of the disease. The most probable habitat likely to be selected by the germ seemed to be in the diseased patches present in the mouth. Since February 1896, S. has carried on experiments to find the germ but failed to find it in the mouth lesions, as other observers before him failed in this regard. This failure to find the germ here can easily be explained by the fact that the mouth contains many different bacteria which develop in culture mediums much more rapidly than the newly discovered germ; the development of the latter may be hindered or destroyed. Furthermore many biological peculiarities of this germ may play a part here in its failure to always develop in the mouth, as it is very often absent in the mouth lesions. But after countless investigations S. succeeded in finding the germ after making many animal experiments that were crowned with success. He as well as the professor of the veterinary high school in R. observed these experiments. The bacillus of Sarcovicci shows the disease in calves in typical form, so that there is no longer any doubt as to the specificity of the germ. S. has concluded his experiments as to the morphological entity of the germ and all that now remains for him is to substantiate his results from a pathologico-anatomical standpoint. The author has been accorded the privilege of reporting the characteristics of S.'s bacillus. The bacillus has the appearance of nearly the dimensions of the typhoid bacillus of human beings (Eberth's bacilli), yet has power of motion, and by means of a special stain one discovers that bacillus has very large wavy swellings on its surface. It thrives on all ordinary culture mediums. With gelatin the cultures assume a brown appearance. It stains with all ordinary laboratory reagents. Fresh

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cultures do not color after Gram's method. Guinea pigs die after subcutaneous injections in from one to four days. The virulence of the bacillus remains for six months in satisfactory culture mediums. In all bovine species the disease can be produced with the bacillus. Size of bacillus in fresh culture and blood of animals sick with the disease is 0.07 u, but after introduction into bodies of animals experimented upon shrinks in size to 0.03 u. At 45° C. they remain pyogenic and at 48° C. perish after 15 minutes. The bacillus is not always present in the saliva or mouth lesions. S. has tried to attenuate the bacillus for immunizing purposes.—(*Berl. Thierärztl. Woch.*)

ANOTHER GERM SUPPOSED TO BE THE SPECIFIC CAUSE OF FOOT-AND-MOUTH DISEASE.—J. in opposition to S. claims that he has found the specific cause of foot-and-mouth disease. Whereas S. failed to find the germs in the contents of the apthous patches of the mouth where one would most expect to find it, owing to there being so many different germs that hindered him in finding it. J. sterilized the apthous patches and with a sterilized syringe withdrew their contents and found as he claims the germ therein. While S. claims that the germ is a bacillus, J. claims it to be a protozoa of class of coccidia with double contour and refracting capsule. Upon inoculating bovine species with apthous contents freed from coccidia no symptoms of the disease occurred even after the lapse of twelve to fourteen days, but on inoculating the animals with the unfiltered contents containing the coccidia, the disease invariably ensued in from three to four days in all the animals inoculated. If this be so there are two distinct germs, that inoculated in bovine species can produce lesions of foot-and-mouth disease, one vegetable, a bacillus (*Sarcovici*), the other animal, a protozoa, of class coccidia. Hence there can be no specificity in the germ of this disease and Koch's theory of specificity of germs must go begging, for he maintains the specificity of germs, both as regard to their form and morphological characters in the production of disease.—(*Berl. Thierärztl. Woch.*)

FRENCH REVIEW.

ABSCESS OF THE PELVIS AND POLYNEURITIS IN A MARE.—As remarked by the author of this article, Prof. Labat, of the Toulouse school, the question of polyneuritis is but little known in human and also in veterinary medicine, and on this account the case is of a double interest. It relates to a mare which, hav-

ing been affected with distemper, had presented several sequelæ, among which occurred first a large abscess of the left gluteal region, then afterwards one of the pelvic cavity with formation of a fistulous tract opening on the left side of the vulva, between this natural opening and the corresponding ischial tuberosity. Explored to recognize its condition, enlarged to permit the escape of the pus and the antiseptic segment, the mare would have made a comparatively quick recovery had it not been for a paresia of the fetlock of the hind leg, which soon became a true paralysis of the whole leg—conditions which were attributed by the author to neuritis of the small femero-popliteal nerve or at least of the anterior tibial, complicated with neuritis of the branch of the posterior crural muscles; evidently these lesions were characterized by special manifestations of locomotion, first by weakness at the fetlock, difficulty in carrying weight, sudden dropping of the joint, atrophy of the muscles, etc. No special form of treatment was followed, but the mare was left loose in a box with a large paddock connected with it, in which she was able to go and exercise herself. The improvement was very slow. There was no change the first two months, the third and fourth months she began to move better, to support the weight of her body, her muscles were slow to resume their normal size, but after six months of this natural repair, the mare was comparatively recovered and able to resume her work. To resume, says the author, the mare has presented, as sequelæ of distemper, two important accidents: *abscesses of the pelvis* and *localized paralysis by multiple-neuritis* (polyneuritis) affecting distinct muscular groups. The first have been often observed. The second must be more rare and have not yet been related. The abscesses followed their course in the ordinary time. The patient recovered more slowly from the motor disturbances; motoricity returned gradually in the affected muscles; the atrophy of the muscles was long in disappearing.—(Rev. Veterin.)

METRORRHAGIA IN A HEIFER [By M. Leblanc].—Uterine hæmorrhages may be classified into three categories. In the first are found those that occur during gestation or after parturition. In the second, those that are sometimes observed during the rutting season. In the third those that are seen outside of gestation and not when the animal is in heat. The case recorded by the author belongs to this third class. The animal had been ailing for twenty-four hours, her urine was colored red at the time of micturation; there was a stream of blood

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oozing from the vulva. She was dull, weak and her mucous membranes pale; the respiration and the temperature normal. The animal stretched and made efforts to expel the clots of blood contained in the vagina, some of which were extracted by the hand. The hæmorrhage was uterine, though it was difficult to locate precisely the seat of the hæmorrhage. Treatment consisted of wet cloths over the loins and vaginal injections of boiled water, 5 liters, and 10 grammes of perchloride of iron. Three days after, examination was made with the speculum and the vagina thoroughly cleaned of the clots of blood that it contained. The neck of the uterus was normal and presented a small clot of blood oozing through the os; evidently the diagnosis was correct. The animal recovered. The principal object of the report is to show the importance of the use of the speculum in the diagnosis of uterine diseases of our large domestic animals.—(*Journal de Med. Vet. and Zootech.*)

LUPINOSIS OF THE HORSE RESEMBLING GLANDERS.—USEFULNESS OF MALLEINE.—The value of malleine in assisting the positive diagnosis in suspicious cases of glanderous nature is well illustrated by the case reported by M. Dupont. A mare suspected of glanders had been reported in a large establishment and serious losses were threatening the owner, who required from the author a minute inspection of all his stock. The mare had an abundant grey reddish discharge adherent to the wings of the nostrils, the glands of the maxillary space were large and painful; on the pituitary membrane there were ulcers of various dimensions, involving the whole thickness of the membrane, with a purplish color at their bottom and their edges formed by a series of small granulations. The same manifestations existed in two other horses. The most minute inquiry into the history of the whole stock failed to reveal any serious condition to explain or even suspect the origin of glanders. The entire stock was malleined (23 horses); of these ten horses accused by a rising of temperature to 1.5° to 2° , and the condition would have looked serious was it not for the fact that there was complete absence of local reaction on all the animals. The suspected mare did not react and her temperature remained normal. Mr. Dupont was very much embarrassed. The three subjects which presented the suspicious symptoms were isolated—all the others were returned to work. A few days later a variety of symptoms showed themselves in several of those; with one it was dullness, grinding of the teeth, loss of appetite, tottering walk; in another, sudden appearance of an ulcerated lymphan-

gitis of the legs; with all an infectious odor of the fæces. Yet the ulcers of the leg were not those of farcy, they were not indurated, and, again, while these symptoms were severe with the horses that worked, the three that were isolated were improving. With them the rations had been changed; instead of oats, they received grass at will. Was that the cause of the improvement? Another inquiry into the quality of the oats revealed the fact that they contained a large quantity of little black seeds, those of *lupinus albus*. With simple hygienic measures everything returned to its normal condition. A second injection of malleine made for *acquit de conscience* remained without effect.—(*Rev. Vet.*)

ENGLISH REVIEW.

ENLARGEMENT OF THE PROSTATE TREATED BY CASTRATION.—This mode of treatment, which seems to gradually make its way in the domain of veterinary surgery, has been applied by Mr. F. Hobday, of the Royal Veterinary College of London, in two cases with complete success. In the first case perfect recovery was obtained in 13 days; in the second a decided improvement was noticed the second day following the operation, radical recovery occurring also in 13 days. The ordinary symptoms of the disease are strangury, a peculiar gait of the hind legs, inability to walk more than a short distance, difficulty in rising after sitting down, with the presence at rectal examinations of the enlargement of the glands. Both animals were operated upon with antiseptic cares and seemed not to be the worse by their mutilation.—(*Journal of Comp. Pathol. and Therap.*)

"X RAYS" IN CANINE SURGERY.—The application of this comparatively recent discovery in photography has received more attention, we believe, at the hands of English veterinarians than with other practitioners. Mr. F. Hobday records two cases, illustrating its advantages in two cases of fractures. The first was that of a collie dog, which, after jumping some high palings, had become very lame in the left foreleg. When brought to the author the dog had a good deal of swelling, heat and pain on the carpus, which were due to the application of liniment. These subsided by treatment, but the lameness remained. Suspecting a fracture, the leg was skiographed, and, after an exposure of three minutes, a fracture of the third metacarpal was made very plain. Crepitation could not be made out, even after the seat of the fracture was known. The leg was placed in

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splints and the animal recovered in a month. X rays afterwards revealed a perfect coaptation of the two ends of the bone. In the second case a fracture of the femur was made out and a plaster applied and the case progressed favorably.—(*Jour. Comp. Path. and Ther.*)

HÆMATOMA OF THE EAR.—This affection, which is quite common in dogs and cats, is sometimes rebellious to treatment. On that account the new suggestion made by the author, Mr. F. Hobday, is worth trying, as the one which has given him most satisfaction. He proceeds as follows: "The ear is carefully washed and dried with antiseptic precautions, the hair being removed from the upper surface and edges; the patient is placed on the operating table, or suitably fixed in some way, and the parts painted with cocaine (chloroform may be used if preferred); a longitudinal incision is then made in the under surface, and every drop of fluid or particle of clot pressed out (this is very important). The edges of the interior of the wound should then be carefully dried with antiseptic wadding and aseptic sutures passed at intervals of about one-third of an inch through the skin and cartilage, the knots of the suture being made on the upper (hairy) side of the ear-flap. The object of this is to produce a firm pressure on the internal surfaces, and also to bring the edges of the wound into contact with each other. This having been completed, and the parts again carefully dried, the whole ear is placed in a pad of antiseptic wadding and bandaged firmly to the head. A cap or net placed over this is of advantage. After treatment consists in simply examining the wound once or twice a day, pressing out any fluid which may be present and carefully drying and bandaging with antiseptic wadding."—(*Jour. Comp. Path. and Ther.*)

BURNS TREATED BY IODINE.—Mr. A. N. Porteous records in the *Veterinary Journal* the success he obtained in the treatment of a six-year-old cob that had been frightfully burnt in an explosion of gas. The entire surface of the body of the animal showed the effects of the burn in various degrees—more severe and deep in some places than in others. The case looked very unfavorable. Taking three ounces of tincture of iodine and a pint of water, mixing them well together, the burned surfaces were soaked thoroughly with the mixture and afterwards covered with a paste of starch and water. The treatment was renewed the next day on the places where the dressing had separated from the underlying skin, a perfect recovery followed in three weeks. The driver of the horse, who also had been

pretty severely burnt, made use of the same application with equally satisfactory results.

AN ABNORMAL MEDIAN NERVE.—At this time, where median neurotomy is becoming quite common in general surgical practice, the peculiar anomaly described by Prof. O. C. Bradley, of Edinburgh, in the *Veterinary Journal*, becomes of the utmost importance to the surgeons, as it is interesting in an anatomical point of view. In describing it, the author says: "The nerve had the usual disposition until it arrived at the upper margin of the tendon of insertion of the biceps flexor cubitii (flexor brachii). At this point a bifurcation into almost equal portions took place, one of the branches was placed in front of the posterior radial artery, the other behind. Then about 60 m. m. below the point of bifurcation, re-union occurred, and a single nerve was again produced about the point at which the nerve and artery buried themselves below the internal flexor of the metacarpus. The re-united nerve, after a course, contributed the customary muscular branch to the flexor in the posterior antibrachial region."

LEAD POISONING.—Mr. D. Pugh, M. R. C. V. S., in the *Veterinary Journal*, publishes an unusually interesting case which occurred in his practice, when seven valuable colts were affected with lead poisoning due to a peculiar circumstance. After having vainly looked at the conditions of the food, water and other surroundings to find lead, he examined the pails, which were placed in the boxes where the animals were kept, and there found the explanation of all the trouble. The pails were the ordinary wooden pails, painted green on the outside and white on the inside. The white coating was observed peeling freely and good sized flakes were loose and could be readily rubbed off. At the bottom of the pail was a layer of oatmeal which had been put in the water, with the idea of chilling it; and mixed with the oatmeal gruel were found many flakes of this dry paint, which the colts would lick up after drinking the water, thus poisoning themselves. In the preceding summer, when they were not required the pails had been put aside, allowed to shrink, and when required, again were filled with water, which caused them once more to expand; this shrinking and expanding of the wooden pails loosened the paint, which fell and got mixed with the oatmeal. The general symptoms presented by the animals were the same in all that were affected, and all received a treatment similar to that laid down in text books, with the result that recovery occurred in all in between seven and twenty days.

DUTCH REVIEW.

VESICAL CALCULUS IN A SHE ASS [*By Schimmel*].—The animal was in good condition, and presented the following symptoms: frequent and severe efforts to micturate, accompanied by partial protrusion of the rectum and vagina, and followed by the emission of a small quantity of cloudy mucoid urine. On exploring through the vulva, the vagina was found the seat of warm œdematous infiltrations, the meatus urinarius was widely dilated, a calculus was felt extending forward on the upper face of the bladder, to which it was adherent. The removal of the stone was quite difficult; the animal had to be thrown and the crushing forceps used. During the severe manipulations, the membranes of the bladder were torn and as a consequence escape of urine into the abdominal cavity took place and death was the result. At the post-mortem, there was found chronic inflammation of the bladder, with thickening and induration of the wall, except where the calculus rested, where the walls were very thin. The right kidney was affected with interstitial nephritis, the left with hydronephrosis. The calculus weighed 197 grammes; its surface was porous, its color dark brown; it seemed made by the adhesive union of several small calculi.

UTERINE FISTULA [*By Beel*].—A milch cow, four years old, since her last calving is losing flesh at sight; she has, in the lower part of the left flank, a piriform tumor, elongated from above to below, from forward backward, fluctuating, yet giving no fluid with exploring needle; this tumor is surrounded by large œdematous swelling. Desirous of waiting for developments, the author advised embrocations of laurel oil. These were followed by an increase in the local symptoms and the appearance of general manifestations; anorexia, fever, and an enormous development of a subcutaneous emphysema, extending far from the primitive dimensions of the tumor. The animal was destroyed. At the post-mortem there was found: an intimate adhesion of the uterus with the walls of the left flank and in the centre of this a fistula, opening at one end in the uterus, at the other towards the muscular layers of the flank; the uterus was filled with a yellowish-red fluid, which escaped through the fistula between the muscular layers. To explain the cause of this lesion the author says that for him the left ovary was first suffering with tuberculosis; that this spread and involved all the internal genital organs and gave rise to the adhesion of the uterus to the flank. As sequelæ of the morbid process, tuberculous

abscess with opening on one side in the uterus and later on infiltration of the surplus of the abscess and of the uterine secretion into the layers of muscles of the flank.

TREATMENT OF DOG DISTEMPER BY THE TRICHLORIDE OF IODINE.—Ellerman recommends the daily subcutaneous injection, during eight, ten, or fifteen days, according to the severity of the cases, of 5 or 10 grammes (dose in proportion to the size of the animal) of a solution of 1 to 2000 of bichloride of iodine in distilled water.

PALATINE FISTULAS IN CATTLE.—Brudwall has observed two cases, one in a young bull, the other in a cow, presenting the following symptoms: Dysphagia, foetid breath, alimentary discharge by the nose, easy prehension and deglutition of soft food and soups; hay, dry fodders, chewed and swallowed with difficulty are rejected in balls from the mouth. These fistulas consist in two openings, occupying the soft part of the palatine roof, admitting the introduction of the small finger and situated on each side of the median line. The treatment consists in feeding with nutritious soups, and irrigations of the mouth with 2 per cent. alum solutions—turn out to pasture if season permits. The author attributes those fistulas to the weakness of congenital structure of the soft part of the palate, which implies the presence or existence of small openings or of weak portions which, under the impression of the repeated pressure made by the hard and fibrous alimentary boli, enlarge or are perforated and transformed into fistulous tracts.

RUSSIAN REVIEW.

GEMELLAR GESTATION IN A MARE [*By Kvatchkoff*].—An army mare, sent to be covered, remained to the horse for a month, and was served several times by an Anglo-Arab stallion. She aborted ten months later with two well-formed dead colts. Each had its chorion, one being larger than the other. From this the author concluded that the mare was fecundated in two meetings after a certain lapse of time where first conception had taken place. The mare had a slight fever, but recovered readily in a couple of weeks. The cause of abortion was not discovered.

CRIBBING IN A FIVE MONTHS COLT [*By Kvatchkoff*].—A colt, born of a young and healthy mare, did not crib, but at five months began to do it. Many means used to prevent him

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or cure him failed, and he kept on in the bad habit. What was most singular is that the colt had always lived in liberty, always had plenty to eat, and has never been around cribbing horses. After a while his mother took the same habit, and it was with the greatest difficulty that she was cured of it. The colt has had several attacks of colic. Taking in consideration the conditions under which the trouble developed in the colt, and failing to explain by any cause such an early appearance, the author thinks that to heredity on the side of the sire may be attributed the disease which rendered the young animal comparatively worthless.

DOUBLE CÆCUM IN A COW.—At a slaughter-house Mr. Staedter found a cow which had a double cæcum. One was 80 c. meters long and 9 wide, the other 1 meter long and 80 c. meters wide. Both cæcums were united by a loose connective tissue. The smallest portion constituted a prolongation of the colon, while the other was in communication with the same viscera through the intermediate of a canal 5 c. meters long and ending immediately after in the floating colon. This fact is interesting in the anatomical point of view, as the existence of a double cæcum, rule in birds, is exceptional.

ECHINOCOCCUS ON THE MITRAL VALVE.—On a steer killed for market, Mr. Kvatchkoff found on the mitral valve a vesicle about the size of a seed of corn. At first he took it for a cysticercus, but on more careful examination he observed that the vesicle was single, located in the middle of the mitral valve, spherical, well defined, of a mat white color, and contained a colorless, transparent fluid. Under microscopic examination, with great power, small papillæ were detected on its internal face, close to each other, and in some places folded together. These papillæ seemed to contain granulations. The vesicle was evidently a proligerous hydatid cyst.

TETANUS CURED BY SUBCUTANEOUS INJECTIONS OF LUGHOL (?) SOLUTION.—Grunner had a very serious case of tetanus, with so severe symptoms that the prognosis was considered as fatal. He resorted to subcutaneous injections of iodine under the form of Lughol solution (iodine, 1, 0; iodide of potassium, 5, 0; distilled water, 100.0). Beginning with two injections of five grammes each, he gradually increased the dose to eight injections. When improvement took place, he reduced the injections as well as their strength. Altogether he injected 300 grammes of the solution in 12 days, and on the 19th of the disease the horse was entirely cured.

A YEAR'S PROGRESS IN MEDICINE.

At the commencement exercises of the United States College of Veterinary Surgeons Prof. D. S. Lamb, A. M., M. D., delivered the following interesting address to the students on behalf of the faculty :

At the request of our worthy Dean, I will say a few parting words in this, the closing hour of the third session of the college and the corresponding commencement.

Since a year ago, during which teachers and pupils have been devoting themselves to the routine of lectures, and recitations, clinics and laboratory work, the world of medicine, both in its human and comparative side, has been making progress. This progress has been most marked in the domains of pathology, diagnosis, and treatment.

Pathology has been notably enriched through the work of the experimental laboratory, and especially by the investigations in bacteriology. The study of the pathogenic organisms ; their multiplication, especially in the form of spores ; the methods, especially the methods of staining, by which they may individually be recognized ; their different forms, at different periods, and under different circumstances, especially their involution forms ; their strong resemblances and marked differences, and their cultures, by which also they may be identified ; their habits and habitats ; their relative and actual virulence ; the various ways by which they cause death ; how they may be destroyed, from the air, from the water, from the soil, from our clothing, houses and food ; from the animal system itself ; how they may be attenuated, or intensified ; the relative and actual susceptibility of individuals to their influence and the influence of their toxic products ; how long they can preserve their pathogenic powers, and under what circumstances ; what is the best and most efficient prophylaxis against them, and what the best and most efficient treatment of the diseases which they cause.

These and other questions which I have not mentioned, are questions which arise and are to be answered in connection with each pathogenic organism. The number and variety of these questions will give sure ideas of the vastness of the subject, and the immensity of the work which the bacteriological laboratory is called upon to do. The year's work has been large and various. Just how much of the result promises to be useful in the prevention and treatment of disease remains to be seen. Of

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course in our impatient way, we are prone to forget that the progress of the world is in the main by slow and laborious steps. It is only at intervals that we are dazzled by some great and brilliant discovery, as by the comet in the depths of the space around us. So also in our lives, when we sum up the year's work in a pecuniary way, after deducting our expenditures from our receipts, our actual savings may be very small indeed. So also in science, the sum total of progress in the year may seem very small. But the work has been done, it has been good work and useful, and at the end of the year there is a gain though it may seem disproportionately small.

Perhaps the most interesting and important part of this subject of bacteriological work is that of serums, their prophylactic and curative powers. The subject is broad and deep, the results thus far obtained are at the least very encouraging. We have learned one great truth beyond any question, and that is that a healthy blood serum is very decidedly germicidal, so much so that the bacteriologist often fails to grow his organisms upon it. Thus with the addition of leucocytes, we are, so to speak, twice armed against the germs that may be introduced within our systems. By means of certain methods and processes, we are able to procure serums which when introduced into the animal economy are found to prevent, or to act as an antidote to certain diseases. Especially among the lower animals has this new truth a great commercial value, apart from what I may call its humanity. How these animals may be inoculated; how they may be immunized; how their early infection with disease may be diagnosed; how they may be cured by means of attenuated toxins and anti-toxins. These are some of the questions and problems which confront us and which are being answered one by one for now this disease and then that.

I am aware that this subject of micro-organisms is perhaps becoming tiresome, especially to those who are yet skeptical in regard to it, but it seems to me that the revelations of the microscope and of the staining methods and cultures and experiments of the bacteriological laboratory are not fairly appreciated even by the most enthusiastic students. The light is as yet too dim to see much of this, as well as of other vast vistas in science. I believe that we as yet but remotely conceive the far reaching expansion of our vision in the next decade.

I pass by the other items of the pathological advances of the year and will touch for a moment upon the work of the clinical laboratory. This indeed has revolutionized and is revolutioniz-

ing the subject of diagnosis, especially in human medicine. This subject too is too vast to dwell upon long. The study of the blood cells, the leucocytes, the red cells, the plaques, etc., is helping us to a new and unexpected means of diagnosis, which in its way, promises as much variety as the other subject of bacteriology. The number of cells and of each kind of cell in the cubic millimetre of blood at various times; as after a night's rest; after a meal; after meals of certain definitely known constituents; under circumstances of active exercise, of sleep, of sedentary work, in the thousand and one diseases to which man and the lower animals are liable. Not only the number of these cells, varying on occasion, but their size, and shape, mononucleated, multinucleated; their response to the various staining reagents,—here is an almost infinite variety. We are only on the threshold of the great building which our children and our children's children are destined to see. There is now added to our means of diagnosis, an increasingly powerful and certain help, the value of which is too dimly conceived. I could dwell upon this topic a long time, but dare not.

The diagnosis of diseases of the stomach in the human subject especially, is now greatly aided by this same clinical laboratory, by the giving of test meals and their subsequent examination, to determine the digestive power of the stomach; the examination of the stomach contents in important cases, in medico-legal as well as individually, simply diagnostic. Thus in regard to the diagnosis of diseases of the kidney, we have the conjoined examination of the urine and the blood. A little blood from the end of the finger may settle the question of malaria, or typhoid fever, or some other disease. A little blood and a little urine may determine whether we have a malignant disease of the urinary passages,—permits us to estimate the probabilities of a generalization of the malignant growth.

Again in the clinical laboratory in conjunction with the physiological, we may determine the action of medicine and diseases under the most favorable circumstances, so far as the lower animals are concerned, and by analogy we may reason not more or less accurate conclusions for the human subject; the results are promising. Taken altogether, the laboratory work of to-day is carrying the modern physician to a place in practical diagnosis and therapeutics beyond the brightest dreams of the fathers in medicine. To this may be added the progress in sanitation, the municipal, State and personal means by which we may protect our homes, schools, and other buildings, may be improved

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in matters of light, of heat, of ventilation, our water supply purified; our food supply preserved unadulterated, and our medicines as well; and the thousand other ways by which our municipal and individual health may be preserved, our life lengthened. One by one an enemy falls, and the time should come, and probably will, when the last one shall perish by the wayside.

New industries, new inventions, introduce new dangers which physician and sanitarian must prepare to meet. We have each an individual duty to perform; the proper diffusion of scientific knowledge is helping toward the good time coming, because as the laity are educated they co-operate with the physician and sanitarian. Evidently there is a very definite progress each year in the light of municipal and personal rules of health. Our homes are so much better lighted, heated, ventilated, than those of our fathers; our dietaries improved, our clothing more healthful, provided that fashion will permit.

We bathe a dozen times where our fathers bathed once. We have improved at the same time the housing and surrounding of our domestic animals. Cleanliness, which is so close to godliness, is a thousand times better observed in their case than in older times.

A word to the gentlemen who graduate. I can enter somewhat into your feelings of the moment, as you think of the transition you are making from the state of pupilage to that of the practitioner. You have a future and you hope it may be a bright and happy one, and I hope so, too. But my own experience and observation have shown me that there are two things you ought to make up your minds to do. One is to lead a straightforward, honest and manly life, despising mean and little things and trying to do the best you can; good practitioners and good citizens, trying to improve your time and opportunity, commanding the respect and confidence of your fellows. The other is to remember, as the lamented Garfield was wont to say, "It is the unexpected that happens," or as Cardinal Wolsey said, "There comes a frost, a killing frost, and when he thinks, good easy man, full sure his greatness is a ripening, nips his bud and then he falls," or that other quotation, the author of which I cannot at this moment recall, and whom you will probably recognize as familiar to you, "From care and trouble rest your thought, even when the end's attained, for all your plans may come to naught when every nerve is strained." These things are not said to discourage you. Life's successes are attained by honesty, by vigilance, good judgment, industry, ac-

accompanied by a certain indispensable amount of knowledge of your profession, some more, some less. If you preserve your health, and I hope you will, keep yourself free from bad habits and observe the other things I have mentioned, you will succeed, and you will deserve to succeed.

I express the sentiment of the entire faculty, whom I to some extent represent, in commending you to the kindness and moral support of your fellow practitioners, while you attend diligently to the duties of your vocation.

THE PROCESSION OF MODERN VETERINARIANS.

HILLSBORO, O., May 4, 1897.

Editors American Veterinary Review:

"An American is the leading veterinary dentist in Australia—Dr. Hoagland. He was recently called a distance of several hundred miles to attend to the teeth of one of the great Antipodean stallions."—*The Horseman*.

The veterinary profession is now the only one not crowded. Neither is it affected by quackery nor contraction of the currency. We have a regular sausage. We come—we come! The snorting of our horses can be heard in Dan. "We are the people," shall be our slogan.

With your permission I will take the pleasure to announce to the veterinary world through your magazine that there will be a great demonstration of the authorities of the veterinary profession at an early date in Carson City, Nevada.

I am enabled by the courtesey of Dr. Solomon Colicwise, V. D., author of "Every One His Own Horse Doctor," to send you a Programme of Order of March:

GREAT DEMONSTRATION
OF
ADVANCEMENT OF VETERINARY SCIENCE.
Order of March.

Dr. Stable Case, A. S. S.,
Commander-in-Chief

Dr. Supersedes Caution, N. G.,
Aid-de-Camp.

I.
Mounted Gate Porters.

II.
A detachment of U. S. Cavalry horses
followed by a corps (e) of non-
commissioned veterinarians
walking.

III.
Vocal music by Glee Club of self-
sufficient Hoss Doctors singing
"We shall occupy the land."

IV.
Twenty carriages of veterinary editors
of live stock papers, each holding
banners inscribed "Vet. Dep't.
Free," "A Horse Dr. Free,"
"Use Blank's Balsam."
"Subscribe!"

V.
Large transparency on float illustrating
the mammoth veterinary libraries
found at each of our veterinary
and agricultural colleges.

VI.
Large float on which are a number
of Roman Gladiators at mortal
combat, thus illustrating the
Harmony
existing between veterinary
colleges and bacteriologists.

VII.

Large Veterinary College on wheels.
Large slot machine in office.
Drop your Money in
the slot and get your
Diploma.

VIII.

Six Water Carts loaded with "Blank's
Liniment"
which will play at intervals during
the Procession upon

IX.

A detachment of ruined and distressed
veterinarians accompanied by
their care-worn wives and
luckless offspring.

X.

Enormous package of "Blank's Condition
Powders" mounted on tableaux car,

XI.

Followed by a number of Bone
Yard Skates and imported coach
horses, thus illustrating
"Before and after taking."

XII.

His Most Gracious Eminence the
College Horse Skeleton, lame,
impotent, and draped in
mourning, and drawn by
four richly caparisoned
Horses.

Remarks.—We understand that along the line of march there will be erected large and commodious booths, at which the procession will occasionally halt and refresh itself with c. c. s. of emulsionized gelosis a la fricassee, and streptococcus pyogenes on toast.

Liquid refreshments will consist of malarial cachexia prophylaxis served on a revolving stage painted with methylene blue.

In the evening at the amphitheatre Dr. Magic Absorber will deliver an address on "How to Succeed as a Veterinarian."

We trust you will approve of this demonstration and give this coming enjoyable event the widest publicity. Very truly,

S. R. HOWARD, V. S.

A HORSE BECOMES A "RAVIN MONIACK."

A Western correspondent of the REVIEW sends the following *verbatim* copy of a letter which fell into his hands, and as a literary curiosity we reproduce it:

"'Tis with our judgments as our watches; none
Go just alike, yet each believes his own."

OHIO, April 12, 1897.

Mr. ——— (Liveryman) By Request of Mr. ——— will Drop
You a Line. Mr. ——— Drove in the Stable of Mr. ——— in
which I have my Office about 5.30 P m April — Horse come
Aparantaly in fine shape was not fatued ore tierd in the Least.
Some Too Hours Later Some one of the Boys noticed the Horse
Had not Eaten his corn, called My attention to no if he was sick
Meerly Looked at him seomealy all well next Moring eerley I

went to the Stable to Hitch up to Make a call Looked at Horse
found he was Sufering from a case of Blinde Stagers in a very
acute form Did not give the Horse any thing thot I would wate
until Mr. ——— come when I come Back the Horse was a
Ravin Moniack and Dide in about an Hour I am of the Opinon
the caus of the Trubel was Reteenchon of the Watters I
took a Bean from the Peanice the size of Patrirtg Egg and
That Kind of Troube will produce Blinde Stagers or acute lin-
fomation of the Brane.

Respectufuly

———— V. S.

COLLEGE COMMENCEMENTS.

CHICAGO VETERINARY COLLEGE.

On Wednesday, March 24th, the students and the graduating class of 1896-97 were given a banquet by the faculty at the Sherman House. Justice having been done to the good things set before the participants, speeches and toasts emphasizing the good feeling existing between the faculty and class were indulged in, and when at a late hour the banquet hall was vacated a most delightful evening had been spent. On Thursday, March 25th, the commencement exercises were held in the college auditorium, the large hall being specially decorated for the occasion. The audience, consisting of the friends of the faculty and graduating class, thronged the lecture room, filling it to its utmost capacity. The class colors, purple and white, were conspicuously worn by the majority of those present. The proceedings opened by instrumental music by the Lawndale quartett. On the platform were grouped all the members of the faculty, the chair being occupied by Dr. Jos. Hughes, who in his opening remarks shortly related the history of the school, highly complimented the graduating class on the splendid showing made by them; of the 22 graduates, 13 having passed with honors, of which the following is a list, according to their standing: Drs. M. J. Dunleavy, J. H. Oliphant, G. P. Frost, F. W. Benteen, Jr., F. L. Cusack, E. T. Frank, Geo. Fry, Jas. Smellie, C. A. Bradley, V. A. Holden, H. J. Schneider, W. F. Fish and T. J. Menestrina. Special congratulations were tendered to Dr. M. J. Dunleavy, who obtained the gold medal for the highest general average; to Dr. J. H. Oliphant, who obtained first prize in theory and practice and chemistry, and to Dr. Geo. P. Frost, who obtained the prize in anatomy. Having made this an-

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nouncement, the chairman conferred the degree of "M. D. C." (Doctor of Comparative Medicine) and delivered diplomas to the following members of the graduating class: Drs. J. H. Oliphant, Macon, Ga.; Wm. Sonerol, Ludington, Mich.; A. M. Taylor, Chicago, Ill.; L. D. Brown, Hamilton, Mo.; F. L. Cusack, Milwaukee, Wis.; E. T. Frank, Warren, Minn.; T. J. Menestrina, St. Louis, Mo.; C. F. Gruner, Chicago, Ill.; Jas. O'Donnell, Milwaukee, Wis.; C. A. Bradley, Wyoming, Ia.; W. H. Scruby, St. Cloud, Minn.; Jas. Smellie, Chicago, Ill.; F. W. Benteen, Jr., Atlanta, Ga.; F. A. Ramsey, Encinitas, Cal.; M. J. Dunleavy, Denver, Col.; H. J. Schneider, Milwaukee, Wis.; Wm. J. Martin, Kankakee, Ill.; L. W. Young, Chicago, Ill.; G. P. Frost, Dublin, Ireland; Geo. Fry, Naperville, Ill.; W. F. Fish, Chicago, Ill.; V. A. Holden, Sparta, Wis.

When the members of the class had resumed their seats, Dr. E. T. Frank gave a reading of "The Horse's Troublous Life,"* which was well received. Dr. M. H. Trumbower, in well chosen and humorous remarks, then distributed the prizes, many beautiful floral tributes being sent by friends of the young veterinarians. A vocal duet and piano solo was then followed by the class prophet, the prophet being Dr. M. J. Dunleavy, who in an exceedingly clever and witty production held up the little peculiarities of his various fellow students, and produced much merriment by his predictions. The valedictory address was a master effort, and was delivered by Dr. L. W. Young, who, during its delivery, on many occasions received the plaudits of the audience. Dr. A. S. Alexander being absent owing to illness, Dr. J. F. Ryan delivered the doctorate address, and was followed by Dr. A. H. Baker, who gave some healthy advice to the young graduates.

BIBLIOGRAPHY.

DISEASES OF THE DOG AND THEIR TREATMENT. By Dr. Georg Müller, Professor, Director of the Clinic for Small Animals at the Veterinary High School at Dresden. Translated, revised and augmented by Alexander Glass, A. M., V. S., Lecturer on Canine Pathology at the University of Pennsylvania. With 93 Illustrations. Philadelphia: W. Horace Hoskins, 3452 Ludlow Street.

The above entitled work, a well-arranged, well-printed, and well-bound volume of more than 400 pages, has been received from the American translator, and we welcome it to our library with more than the usual amount of satisfaction. In a preface

* A poem by the late Prof. Thomas Walley, published in the REVIEW, Vol. X., page 90.

the translator, Dr. Alexander Glass, of Philadelphia, gives as the incentive for his admirably performed work that there did not exist a scientific text-book upon the subject of canine pathology, that those in existence were written to serve both the purposes of a popular treatise for the student and as a dog-book for the breeder and fancier; and in this statement he has very nearly described the situation, although many of them are valuable as imparting the personal observations of their authors. His endeavor has been to furnish, by a close translation of the work of that eminent authority, Prof. Müller, a text-book that would be acceptable to advanced students and up-to-date practitioners of canine medicine, and upon a very careful inspection of the work we unhesitatingly predict that he has exceeded his own anticipations, for the book in its compact and well-arranged form seems to cover the ground completely. It is unnecessary for us to say that no one at all interested in the subject can afford to be without a copy in his library.

A glance at the table of contents will give an idea of the scope of the work, which includes a general examination of the animal, diseases of the digestive apparatus and respiratory organs, of the circulatory, urinary, and sexual apparatuses, of the nervous system, diseases of true infection, constitutional affections, diseases of the bones and articulations, wounds, hernia, tumors, eyes, ears, and skin.

It is well illustrated and in every way is admirably adapted to fill a place that has long been but inadequately occupied, and we trust the translator and publisher will meet with the success which their labor and enterprise deserve.

VETERINARY OPHTHALMOLOGY. By Geo. G. Van Mater, M.D., D.V.S., Professor of Ophthalmology in the American Veterinary College, Oculist and Aurist to St. Martha's Sanitarium and Dispensary, etc. Illustrated by one chromo lithograph plate and 71 engravings. New York: William R. Jenkins, 851 and 853 Sixth Ave.

In a neat little volume of 135 pages the author has presented the veterinary profession with a work that must prove of the greatest value, since he treats of a subject of much importance and of the most fascinating interest, and thus fills a gap in our literature which has been too long neglected. Prof. Van Mater is peculiarly fitted to prepare a work of this nature, since his experience and special training have been such as are rarely combined. He graduated in veterinary medicine and practiced that profession for some years; but having a taste for ophthalmological research and practice, took a course in medicine with the special purpose of perfecting himself as an eye

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specialist, in which branch he has been in successful practice in Brooklyn for a number of years. All this time he has maintained a connection of his specialty with veterinary patients by delivering each year a valuable course of lectures at the American Veterinary College, with abundant illustrative subjects at the college clinics. His work well displays his adaptability for the undertaking, for he has given us a very compact and comprehensive treatise. His preface is particularly modest and laconic: "My excuse for perpetrating this work consists in shifting the blame on the students who so often have asked me to recommend something that could be studied without necessitating the perusal of many pages. And so this is the result. I lay claim to but little originality, although what I have told is the result of conscientious study, supplemented by practice, both private and clinical, and careful observation. Let me hope, therefore, that my motives will be taken into consideration by any critic who may deem this publication worthy of notice."

The work itself consists in an introduction, which treats of the physiology of vision, with special reference to the horse, the various complex propositions being made plain by simple diagrams. It is divided into seventeen chapters, which describe successively the orbital cavity, the lids, the lachrymal gland, muscles of the eye, the conjunctiva, the cornea, the sclera, the iris, the ciliary body, sympathetic ophthalmia, the choroid, crystalline lens, the optic nerve, glaucoma, and enucleation. Under the various headings the most common diseases of the structures described are discussed, and where illustrations will be of assistance to the reader they are generously supplied. The colored plate, "The Normal Fundus of the Eye," is especially valuable, and we have no doubt the work will meet with a hearty reception from the profession. The house of W. R. Jenkins, 851 Sixth avenue, New York, has done itself credit in the manner in which it has placed the book in the market.

SOCIETY MEETINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting of the Veterinary Medical Association of New York County was called to order by President Huidekoper at eight o'clock sharp on the evening of April 7th, 1897, at the association rooms in the Academy of Medicine.

On roll-call the following members responded: Drs. C. C. Cattnach, J. S. Cattnach, J. S. Cattnach, Jr., Delaney, Ellis,

Farley, Gill, Huidekoper, Hanson, Loomes, O'Shea and Robertson.

The minutes of the previous meeting were read and approved.

Report of Board of Censors.—Dr. Gill (Chairman) reported favorably on the application for honorary membership of Dr. W. Herbert Lowe, of Paterson, presented by members Ellis, Hanson and Ryder. Moved and seconded, that the report be accepted, and that Dr. Lowe be declared an honorary member of the Association. Carried.

Reports of Cases.—Dr. Farley reported a case of injury to a mare by the introduction of a broom handle into the vagina and uterus, evidently by malicious persons, which resulted in death soon after being seen by him. The doctor reported the case when seen to the American Society for the Prevention of Cruelty to Animals, but no notice was taken of it by that society.

Moved and seconded that Drs. Farley, Gill and Hanson act as a committee of three to report at the next meeting on the case referred to by Dr. Farley, and the relations of the veterinarian to the Society for the Prevention of Cruelty to Animals. Carried.

Reports of other interesting cases by members, and free discussions followed, resulting in a motion by Dr. Delaney, seconded by Dr. Hanson, that Dr. Robertson read a paper at the next meeting on the transmission of diseases to the "get." Carried.

Report of Judiciary Committee.—Dr. O'Shea (Chairman) requested the meeting to wait for a complete report of legislative affairs until the next meeting, and stated that he feared the Jury Bill was doomed. He also read a communication from the association's counsel relative to the Mulvey case, in which the counsel advises communicating directly with the county clerk, as the error in allowing Mr. Mulvey to register is evidently his. Moved and seconded that the report be accepted. Carried.

Publication Committee.—The Chair reported for this committee that all the details of the "Blue Book" had at last been gone over, and that it was now ready for the printer. Moved and seconded that the report be accepted. Carried.

The proposed amendment to the By-laws was then read by the Secretary. Moved and seconded that the amendment be laid on the table. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, *Secretary*.

The regular monthly meeting of the Veterinary Medical Association of New York County, was called to order May 5th at 8.45 P. M., at the Academy of Medicine, with the President, Dr. Huidekoper, in the chair.

The minutes of the previous meeting were read, and, after slight correction, approved.

The following members responded to roll-call: J. S. Cattanaach, Delaney, Ellis, Farley, Gill, Huidekoper, Hanson, Loomes, MacKellar and Murphy.

Board of Censors.—Dr. Gill (Chairman) reported that the committee had no business on hand.

Special Committees.—The committee appointed to report on the case of Dr. Farley and the relation of the veterinarian to the American Society for the Prevention of Cruelty to Animals, asked permission to report progress. Moved and seconded that the report be accepted. Carried.

President Huidekoper then requested Dr. J. S. Cattanaach to take the chair, while he gave an interesting and instructive "talk" on the subject of castration in the standing position, giving it as his opinion that the operation could not be properly performed with the animal standing. A very interesting discussion followed by the members.

Publication Committee.—President Huidekoper reported for this committee that they expected to get the "Blue Book" out some time during this month. Moved and seconded that the report be accepted. Carried.

New Business.—Dr. Gill read a communication from Dr. Salmon in reference to the Pasteur Monument Fund. Moved and seconded that the chair appoint a committee of three with the power to act on the communication from Dr. Salmon. Carried.

Moved and seconded that the meeting adjourn. Carried.

ROBERT W. ELLIS, D.V.S., *Sec'y.*

CHICAGO VETERINARY SOCIETY.

A special meeting of this society was called to order by the President, Dr. Walker, on April 26, who stated that the meeting was called for the purpose of deciding whether or not a protest should be made to the Mayor of Chicago against the appointment of a non-graduate and two assistants as veterinarians for the police horses of the city. On motion of Dr. E. L. Quitman, seconded by Dr. Rishel, that a committee of four be appointed by the President to wait on the Mayor and talk the

matter over with him. The President appointed Drs. Hughes, Tuthill, Robinson and P. Quitman. Dr. Walker said he also would attend.

Dr. Tuthill read a very interesting paper on the subject of this appointment; he also touched upon the appointment by the Governor of a non-graduate to the position of State Veterinarian.

Moved by Dr. Robinson, seconded by Dr. E. L. Quitman, that the paper read be published in the *Daily Inter-Ocean*. Carried.

On motion, adjournment.

The regular meeting was called to order by the President on May 13. The roll-call showed twenty-one members present. The Secretary presented a letter from Dr. S. E. Bennett to the society requesting that his resignation be accepted, as he had left the state. Motion by Dr. Ryan, seconded by Dr. McGrath, to accept the same. Carried.

A bill for stationery being presented by the Secretary for \$3.37, motion was made by Dr. McGrath, seconded by Dr. Henderson, that the Treasurer be authorized to pay the same. Carried.

On application and examination by the Board of Censors the two following gentlemen were admitted to full membership: Dr. D. W. McKillip and Dr. O. R. Dubia.

A report was made by Dr. Hughes, chairman of the committee appointed by the President at the last meeting to interview the Mayor in regard to the appointment of a non-graduate to the office of Police Veterinarian. The Doctor stated that the Mayor claimed that he had nothing to do with the appointment as the office was not the head of a department; and that the Chief of Police was the party to see. The Chief was not seen as the committee did not feel justified in so doing at the present time. After much discussion by the members it was moved by Dr. E. L. Quitman, seconded by Dr. McGrath, that the Legislative Committee consider the feasibility of draughting a bill to introduce into the Chicago City Council making it a law that the veterinary surgeons employed by the city shall be graduates of recognized veterinary colleges; and that the positions filled by such veterinarians be a separate department from the Police and Fire Departments, and that the Legislative Committee report at the next meeting their plans for this action. Motion by Dr. E. L. Quitman, seconded by Dr. P. Quitman, to discharge the committee appointed to wait on the Mayor. Carried.

Under new business Dr. Hughes stated that owing to the appointment of a non-graduate to the position of State Veterinarian, that he intended sending in his resignation as an Assistant State Veterinarian, as he would not consent to work under or assist in any way a non-graduate. This decision was received with applause from the members present. Dr. Ryan followed Dr. Hughes, who also stated that he intended resigning for the same reasons, and he hoped that all the assistants throughout the state would do likewise. A report was made that other assistants not present would also resign. Moved by Dr. E. L. Quitman, seconded by Dr. Robinson, that the Secretary have letters printed, which he shall send to all graduate veterinarians in the state, asking those who are now assistant state veterinarians to resign, and those who are not to refuse any appointment under the present State Veterinarian or any other non-graduate State Veterinarian, should any appointment be offered to them. That the Secretary give the letters the greatest publicity possible in all veterinary journals, farm papers, daily papers and to the medical profession and public generally, both domestic and foreign. That as the Governor has paid no attention to the request of the profession to the matter and has appointed the said non-graduate in direct opposition to the welfare of the profession and the people of the state when requested privately not to do so, that we now as a profession do all we possibly can to redeem the profession from its present condition by interesting the public at large. Moved by Dr. Hughes, seconded by Dr. Ryan, that at the next regular monthly meeting, June 10th, the members of the society have a banquet. Carried.

It was suggested that the Legislative Committee read a paper at the banquet divided into sections among the committee setting forth the proper course of getting a bill through our City Council. Also as to meat and milk inspection for the city and how such offices can be placed under the care of veterinarians.

On motion, adjournment.

LAWRENCE CAMPBELL, *Secretary*.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The March meeting of this Association was called to order at 7:30 on the 9th by President Hart, with the following members of the profession present: W. W. Martin, H. D. Martien, J. D. Houldsworth, J. Clarence Marshall, Thos. B. Rayner, W. L. Rhoads, Chas. Lintz, W. S. Kooker, W. H. Hoskins, John R.

Hart, Chas. T. Goentner, Francis Allen; also a number of students.

We also had the pleasure of having with us Prof. Marks, of the Adirondack Valley, Mr. S. C. Diamond, of Massachusetts, and as speaker of the evening, R. A. Pearson, Assistant Chief of the Dairy Division of the Department of Agriculture, Washington, D. C.

After the calling of the roll and reading and adoption of the February minutes the regular order of business was suspended that Mr. R. A. Pearson might read his paper on "Sanitary Milk." This was followed by a paper by Dr. Leonard Pearson on "What Prof. Bang's Work Teaches."* Dr. Pearson having been called to Harrisburg, his paper was read by the Secretary. After its reading the discussion was entered into upon both papers.

Mr. R. A. Pearson said that of the foods most liable to adulteration, milk was the most important; it contains all the constituents of a complete food, and when fresh they are in a condition to be easily digested; its purity depends upon the selection, health, care, and feed of the animals, cleanliness of utensils, in the stables, and all places where milk is allowed to be; its age when it reaches the consumer, and its care at that time. It is important that these details should be well looked after when we realize that one-third of all deaths are infants and a large proportion of these are fed on cows' milk. Pure milk does not signify simply milk having a normal chemical composition: it means freedom from any form of contamination. The contamination may be divided into two classes: those affecting quality from a chemical standpoint, *viz.*, skimming and watering, and those affecting quality from a hygienic standpoint, *viz.*, the bacteriological contents and the various fermentations that may be taking place. The most common species of bacteria are those forming lactic acid and causing the milk to become sour by acting on the milk sugar; milk carelessly handled contains two or three times as much acid as carefully handled milk of the same age. Slimy milk is a fermentation, in which the fluidity is partially lost, and in attempting to dip it strings are formed. If the odor on milk is strong when first drawn from the cow, and gradually decreases, it is probably due to food eaten by the cow. If it is not at first noticed but gradually becomes apparent and continues to grow worse it is probably due to bacterial growth. Pasteurization does not necessarily

* Published elsewhere in this issue of the REVIEW.

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mean that it is clean or pure, it simply destroys the active germs and makes it possible to keep the milk much longer. It has been proven practical and profitable to produce milk having but a few hundred bacteria per c. c., whereas ordinarily the same volume contains many thousand organisms. The chief sources of infection are dirt and water. Cattle should be groomed daily and the udder and surrounding parts thoroughly cleansed with a damp cloth; before milking hands should be clean and over clothes used for no other purpose. At the experiment station in Wisconsin it has been shown that by using these precautions, the number of bacteria deposited per minute in an ordinary pail during milking is about 2500, while under ordinary circumstances they numbered over 16,000. Old, worn, battered pails and cans should be discarded, as they cannot be thoroughly cleansed; they should be thoroughly sterilized with boiling water or live steam. Russell found milk taken in sterilized pails contained but 165 germs per c. c., while that taken under the same conditions in unsterilized pails contained over 4000 germs per c. c. When dry hay or other fodder is fed much dust arises and the number of germs falling within the ordinary milk pail may be over 150,000 per minute. The fore milk remaining in the teats is easily reached by bacteria from the outside of udder; all conditions being favorable they multiply with astonishing rapidity, Shultz having found 100,000 germs to the c. c. of fore milk. Milk ordinarily taken contains over 15,000 bacteria per c. c., while with the precautions above suggested there were less than 350 in the same volume or a diminution of 98 per cent. After being drawn the milk should be immediately cooled within 15 minutes to 45° F. or lower to check bacterial growth. Outbreaks of tuberculosis, diphtheria, scarlet fever, foot-and-mouth disease, typhoid fever, cholera, scarlatina, etc., have been traced to the milk supply, and in some instances have been widespread in their effects. Kober reported an outbreak at Stamford, Conn., in the spring of 1895 of 307 cases; outbreak Hightstown, N. J., in 1893 of diphtheria, 28 cases; boy assisted in milking while he had diphtheria. The following should be observed in establishing a dairy plant: All animals suffering from any disease, or not in a normal condition, should be excluded from the herd. Pasture should be free from foul decaying matter, should not have access to ground unnecessarily befouled or swampy. Stables should be convenient, comfortable and healthy, on elevated, well-drained ground, waste products immediately removed to a distance, feed kept apart from stock

room. Water supply should be abundant, pure and obtained from deep wells when possible. No unwholesome, spoiled or putrifying food or any material likely to impart unpleasant taste or odor should be used. Animals should have access to shelter at all times and should be cleansed once daily; must have kind treatment and the milk from excited cows should not be used. Milking should take place in a clean, well-ventilated building and the milk then properly attended to. The dairy schools are a good step in the right direction for the production of sanitary milk. The consideration of pure milk and the advantage in obtaining it seems to fall naturally to veterinarians; they should do all in their power to restore the confidence of the consumer, thus increasing the consumption of milk. The importance of this work is better appreciated when we realize that there are about 17,000,000 cows in this country; it is estimated that 5,000,000, of them, whose annual product is valued at \$150,000,000 produce milk for direct consumption.

Dr. Leonard Pearson in his paper on the work of Prof. Bang quoted him as one of the greatest authorities on tuberculosis of cattle; and gave to him the credit of having first discovered and called attention to many of the facts in connection with this disease that were previously unknown. Prof. Bang's country is one of the smallest in Europe, but its inhabitants are a thrifty, frugal, and conservative people, of a high order of intelligence; they depend largely upon the dairy for their support, and although the country has a population of but 2,200,000 and an area of little over 15,000 square miles, about one-third that of Pennsylvania, there are in Denmark about 1,700,000 cattle (approximately the number in Pennsylvania). In 1890 Denmark exported more than \$22,000,000 of butter and more than \$2,000,000 worth of cattle; this amounts to more than \$10 for each inhabitant of the country. The subject of tuberculosis is of national importance in Denmark, as it involves the principal source of the country's wealth and prosperity, Prof. Bang is at the head of the work there now, and has at his command an appropriation of \$30,000 per annum. By the use of tuberculin it was found in testing 53,000 cattle that 38.5 per cent. were tubercular to greater or less degree. Long continued contact is a means of spreading the disease, while short exposure is not always necessarily dangerous. Skim-milk from creameries may become a potent factor in the spread of the disease, part of the whole milk being supplied by tubercular cows, the mixed product is returned to the farm and disease communicated to healthy

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herds, and it has been given in this way, strange to say, to such a comparatively immune animal as the horse. Tuberculosis is rarely inherited, and in all but the most exceptional cases the calves of tubercular cows are sound when born; and if fed on milk from sound cows or milk that has been heated to 185° F. they will remain free. Tuberculin furnishes by far the most accurate means of detecting tuberculosis. Yet it is made clear the degree of reaction does not indicate the extent to which an animal is diseased, as we may have a high reaction in an animal that is but slightly diseased, and conclusions must be drawn with great care. Prof. Bang's personal experience is larger than that of any other veterinarian, yet he has seen but three cases of typical reaction in which it was not possible for him to discover tuberculosis, and in one of these there was disease of a chronic and incurable character. After an experience covering 53,000 cases, Prof. Bang is confident tuberculin is not injurious to healthy cattle, and by its use in the conquest of bovine tuberculosis we expect not only large economic profits, but also the annihilation of an important source of human tuberculosis.

After the reading of his paper, R. A. Pearson was besieged with questions bearing upon the production of milk and its germ friends and foe to these. He always had a ready answer. The discussion was interesting, and proved that all fortunate enough to be present were interested. With a hearty vote of thanks to the speaker, the meeting adjourned to meet April 13, 1897.

W. L. RHOADS, D. V. S., *Secretary*.

THE VETERINARY MEDICAL SOCIETY OF NEW JERSEY AND VICINITY.

The regular monthly meeting was held at Dr. Sattler's infirmary, at Newark, on Tuesday, May 11, and was called to order at 4:30 P. M., President Sattler in the chair.

At roll-call the following members responded: Drs. Sattler, Turner, Ogden, Loblein, Zucker and Buckley. The minutes of the last meeting were read and approved.

Dr. Knott, of Plainfield, N. J., was elected a member.

Dr. Sattler made a few suitable remarks regarding the welfare of our society.

Discussion and reports from practice were next in order. Dr. Sattler reported having treated a case of chronic rheumatic shoulder lameness with subcutaneous injections of veratrine in alcoholic solution. Two injections were made (the dose be-

ing two decigrammes) around painful tissues. The injections were followed by abscesses at seat of puncture. In addition to the veratrine treatment wet cloths were placed over the shoulder and covered with blankets. The animal made a good recovery. Discussion followed as to whether any other counter-irritation would not have produced the same beneficial results.

The nature and formation of scirrhus cord was freely discussed, also vaginal tumors in bitches.

Dr. Turner, of Hackensack, promised to prepare a paper to be read at the next meeting. E. BUCKLEY, V.S., *Secretary*.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting of the Massachusetts Veterinary Association was held at No. 19 Boylston Place, Boston, on Wednesday evening, March 24, 1897.

Meeting was called to order by Dr. Winslow at 8 o'clock, and the following members were present: Drs. Burr, Cronon, Dyer, Lee, Lewis, McLaughlin, Stickney, Winchester and Winslow. John M. Armstrong, M. D. V., was elected a member.

The Chair appointed Drs. Peters, Blackwood and McLaughlin a committee to make arrangements for our thirteenth annual meeting and banquet for April 28th.

HENRY S. LEWIS, *Secretary*.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

Secretary Stewart complains that the repeated appeals through the journals for volunteers to read papers at the coming session at Nashville are being very tardily responded to. The following papers are already promised: Dr. Leonard Pearson, "Tuberculosis"; Dr. E. A. A. Grange, "Infectious Mammitis in Cows"; Dr. E. P. Niles (title not given). One or two more are promised from Pennsylvania, one from Minnesota, and one from Ohio. The Secretary is appealing personally to many, and if perseverance will count his programme will be abundantly filled. The members should not so tax their hard-worked officer, but should respond with alacrity.

THE PENNSYLVANIA STATE BOARD OF VETERINARY MEDICAL EXAMINERS

will hold the annual examination in Philadelphia on the second Monday and Tuesday, June 12 and 13. Applicants will please apply at the office of the Secretary, 205 N. 20th St., Phila., for further information. S. J. J. HARGER, *Secretary*.

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PORTLAND (ME.) MILK REGULATIONS.

RULES AND REGULATIONS OF THE BOARD OF HEALTH, RELATING TO THE SALE OF MILK WITHIN THE CITY OF PORTLAND, MAINE.

Adopted by the Board May 1, 1897. Approved by Thomas H. Haskell, Justice of the Supreme Judicial Court, May 7th, 1897.

SEC. 1. No person shall at any time, by himself, his clerk, servant or agent, directly or indirectly sell any milk within the city of Portland, except as hereinafter provided.

SEC. 2. Before any milk is offered for sale in this city by any person or persons, the cows from which the milk is taken must be examined in the month of June, of each and every year, by a regular veterinary, first approved by the board of health.

SEC. 3. The examination of all cows shall consist of a tuberculin test, and also of a physical examination, and a certificate of health shall be prepared by the veterinary of all cows so examined, and shall be filed with the board of health. Such certificate shall give the name and residence of the owner of the cow, also the condition of the barn in which the cow is kept and the condition of the water supply furnished such cow.

SEC. 4. Any person or persons sending, bringing or taking milk in any manner whatsoever into the city from cows which have not been examined as aforesaid, or any dealer who receives from any person or persons, or transportation company, the milk taken from cows which have not been examined as aforesaid, and shall sell such milk in the city of Portland, shall be guilty of misdemeanor, and punished as hereinafter provided.

SEC. 5. Any violation of the foregoing by-laws by any person shall be deemed a misdemeanor, and upon conviction thereof, such person shall be punished by a fine of not less than \$5.00 nor more than \$50.00.

The following veterinarians have been appointed by the Board of Health to meet the provisions of the above regulations: Portland—G. F. Wescott, D.V.S., W. S. Lord, M.D.V., F. W. Huntington, D.V.S., F. B. Gage, M.D.V. Lewiston—H. H. Choate, D.V.S. Biddeford—C. W. Purcell. Deering—G. H. Bailey, D.V.S. Bonny Eagle—H. S. Usher, D.V.S.

NEWS AND ITEMS.

JOHN S. MEYER, D. V. S., of St. Joseph, Mo., has sold his practice and gone into other business.

THE LAST CHAPTER in the celebrated Kneeb case is now recorded in the sale of the confiscated mare "Bethel" to her trainer for \$1250.

TAKE YOUR WIVES AND DAUGHTERS with you when you start for Nashville. It is not an experiment; it was a delightful realization at Buffalo. The ladies enjoyed every minute of their sojourn.

G. LEO HAGEN BURGER, D. V. S., of Brooklyn, has sold his practice through an advertisement in the REVIEW and has taken up the study of law. L. D. Ives, D. V. S., of East Wallingford, Conn., became the purchaser.

PROFESSOR KOCH'S cure for rinderpest is regarded with the gravest misgivings in official circles. The cattle treated strictly according to Dr. Koch's method are dying in hundreds.—(*Veterinary Journal*.)

HAVE YOU SENT the subject of your paper to be read at Nashville to Secretary Stewart? Those entrusted with the details of the arrangements need every assistance in order to have things run smoothly.

MALLEIN IN GREAT BRITAIN.—The Midland Counties Veterinary Medical Association and the West of Scotland Veterinary Association endorse mallein as an extremely sure test of the existence or non-existence of glanders.

THE KENTUCKY LEGISLATURE has passed a bill which provides for the killing of all horses that may be affected with glanders and a recompense of \$50 per head to the owners of all animals so destroyed.

RETURNING PROSPERITY, scarcity of good horses, on account of the diminished amount of breeding during the past few years, and the spending of the bicycle craze (among those who can afford to keep horses) are making the equine more valuable. The more valuable he becomes the better veterinary patient he will be.

A VETERINARY MICROSCOPIST.—At the exhibition of the New York Microscopical Society, held on April 13, Herbert Neher, D. V. S., of this city, presented a section of the dog's tongue, also a section of the human lung, injected, showing the blood vessels around the air cells. His work was much admired, the latter specimen being considered especially fine.

LIKES THE REVIEW.—A subscriber in Columbia, Pa., writes under date of April 24: "Enclosed please find postal order for three dollars, for my subscription to the REVIEW from April, 1897, to April, 1898. Could not get along without the REVIEW; have very often found one article in a number that was worth more than a year's subscription."

IN DEEP WATER.—Those who think that the veterinarian's abilities cease with his dexterity in treating colics or diagnosing lameness will hesitate to further malign us when they read the following note from an M. D. to a well-known New Jersey veterinarian: "May 22, 1897.—My dear Doctor: Kept my eye open for a glimpse of you Thursday, but of no use. I was anx-

ious to see you. Am writing a paper on 'Headache: Is Auto-Intoxication a Factor.' Heard you had been investigation the subject. Please have pity on a poor mortal and give him some pointers."

VETERINARY EXAMINATIONS AT HORSE SHOWS.—Complaint reaches us of the conduct of the veterinarians in the ring at the Boston Horse Show, who made considerable ado over their inspections, examining and returning to the examination, then consulting and then taking "a fresh hold," until the onlookers could not escape the conviction that something must be wrong with the horse. It is a very dull-eyed "vet" who needs to prolong an examination to satisfy himself of the unsoundness of a horse. As a matter of fact veterinary inspection in the ring is all wrong—as the *Gazette* has for years contended—and the New York and Philadelphia Shows have conceded the point. Boston should follow suit.—(*Breeders' Gazette*.)

EXPORTS OF HORSES.—A remarkable increase in the export of horses from the United States has occurred during the last few years. In 1893 the total number shipped to foreign countries was only 2967. In 1894 it increased to 5246, in 1895 to 13,948, in 1896 to 25,126, and during the first six months of the present fiscal year, ending Dec. 31, the total was 14,232, so that if the same proportion is continued during the remaining six months the total for the year will be 28,464. Nearly half the entire exports in 1896 went to Great Britain, the exact number being 12,022; but it is believed that 1000 or more additional were sent through Canada, the exports to the Dominion being 5305 horses.

TREATMENT OF ACUTE IDIOPATHIC PERITONITIS OF BOVINES [*By Cramer*].—For these affections, which may develop without apparent causes, and which the author attributes to plethoric infection or rheumatismal influence, the following treatment is highly recommended: Administer three times a day 100 grammes of baborate of sodium with a few grammes of juniper berries, dry or moist frictions on the abdominal walls, and cover the animal with heavy blankets. After the second or third day improvement is manifest, in eight or ten days recovery complete. This treatment, with the addition of emollient and antiseptic injections, answers well also for metro-peritonitis.

RELIABLE DRUGS.—All veterinarians and owners of stables, also private parties having stables, will find it a profitable in-

vestment to keep a small stock of veterinary medicines on hand, to be used in cases of emergency. Eimer & Amend, 205 to 211 Third Ave., corner Eighteenth Street, make a specialty of supplying such medicines, and have just issued a special list of veterinary medicines and sundries, which they consider the most complete list of its kind ever published. The drugs and pharmaceutical preparations sold by them are of the best and purest that can possibly be obtained; the fluid extracts, tinctures, ointments, etc., are manufactured by them in their laboratory on the premises. Special attention is given to the recipes of veterinary surgeons in their prescription department. Eimer & Amend will mail on application one of their veterinary lists on mentioning this paper.

A BEFITTING TRIBUTE.—At the April meeting of the Veterinary Medical Association of New York County, W. Herbert Lowe, D. V. S., of Paterson, N. J., was unanimously elected an honorary member of that association. This was a very appropriate honor to a very deserving recipient. It has always appeared to us as just and proper that men of the type of Dr. Lowe should be appreciated and encouraged during their period of active life, thus stimulating them to continued efforts, not waiting to bestow the high words of praise in the obituary notice nor incorporated in the resolutions to be spread upon the minutes "and a copy sent to the sorrowing family of our deceased brother." Dr. Lowe is the type of the modern veterinarian—of those who are adding to the material upbuilding of our profession—enthusiastic, earnest, intelligent, dignified, and up-to-date, and the more we have of this kind the better it will be for us all. It was a nice tribute which the society paid to the doctor, and we extend our compliments to both.

THE THERMO-CAUTERY.—Among inventions bearing upon therapeutics and surgery none has achieved more widespread renown than the thermo-cautery, especially so among veterinarians, and true it is that no up-to-date veterinarian can do without an apparatus for this purpose. It was about 1891 that the patent for the original thermo-cautery expired, leaving it to the wide world to improve upon its original form. Messrs. John Reynders & Co., of 303 Fourth Avenue, New York, have been untiring in their efforts to realize a contrivance as free from objections as possible, and, after having had two or three types of cautery, now seem to have settled upon a model of final and extraordinary merit, which within the last year they have been

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offering to our profession. Not only in theory of construction, but also in practical execution we consider their apparatus a very superior one, and among its votaries we can name such men as: Profs. W. J. Coates, R. R. Bell, Herbert Neher, J. Elmer Ryder, J. D. Burtiss, Ralph Hall, M. E. Knowles (Helena, Mont.); Capt. A. H. Wattles, M. R. C. V. S. (Pittsfield, Mass.); W. H. Prophett (Bridgeport, Conn.); Lemuel Pope, Jr., M. D., V. S. (Portsmouth, N. H.), and many others.

HORSES FOR THE ENGLISH ARMY.—A party of fifteen cavalry officers accompanied by six veterinary officers, left Southampton on the steamer *Danube*, of the Royal Mail Steam Packet Company, for Buenos Ayres on Friday last for the purpose of selecting as many as 8,000 or 10,000 horses suitable for campaigning under the most trying circumstances. The party is in charge of the Assistant-Inspector of Remounts, Colonel W. R. Truman, and the instructions to the officers, who left at short notice, were to buy serviceable horses of a higher grade than usual, and to make selections without so much regard to the prices to be paid as is customary. Orders for the insertion of advertisements in Argentine papers, making known the fact that an important order for a large number of vigorous, up-to-weight horses would soon be wanted by a ready cash purchaser, had been sent ahead. The detachment from the office of the Inspector General of Remounts will remain in South America all the summer, if necessary, in order to secure the horses required, which will then be shipped direct to South Africa. This is the first time that the British Government has seen fit to send an important commission for the purchase of horses to South America, the usual sources of equine supply being Ireland, the Continent, and North America [The United States and Canada].—(*The London Daily Mail*.)

THE HORSELESS CARRIAGE.—The progress of the motorcycle is not so swift as to take one's breath away. The horseless age is hardly yet in sight. Amid the hullabaloo that has been kicked up about the motor vehicles some people have been deceived—being ready to accept at this time almost any wild promises of invention that may be made in the name of science. The motorcycle so far as developed has not only its inexorable limitations but also its inherent objections. It is of interest to note the expression of the opinion of Mr. Henry Labouchere, the famous editor of *London Truth*, who is certainly as free a lance as ever wrote: "I have no special feeling of like or dis-

like toward a horse—my sentiments toward him are those I entertain toward a pig or donkey, or any other useful animal; nor have I ever understood why anyone should be deemed the better man because his affections are centred upon a horse. The object of a carriage is to convey people and goods. The carriage is to my mind the best that at least cost adequately fulfills this object. If motors, by all means let us have motors. Last Saturday I betook myself to Westminster Bridge to see the procession of these vehicles on the way to Brighton. I was disappointed. No one seems to have grasped the fact that there must be a new departure in their form. Judging from those in the procession their makers have simply sought to make them as near like carriages drawn by horses as possible. Apart from form, the lighter ones seemed to vibrate greatly. By my side stood a talkative lady whose acquaintance I had not previously enjoyed. 'If the people inside of them were cream,' she said, 'they would be butter before they got half-way to Brighton.' I suggested to her that the petroleum cars smelt unpleasantly. 'Stink,' she said, 'is the word for them,' and it certainly was." Those who recall our report of the fiasco of a motorcycle test in this city in 1895 will observe that no progress has been made in eliminating the pungent and objectionable odor of burning petroleum or gasoline. Few smells are so penetrating and offensive as these fumes and inventors yet have need for a deodorizing "tender" to be carried along with vehicles. A general survey of the situation does not warrant any alarm on the part of those engaged in the production of fine horses or draft horses. The drudge horse has already been superseded.—*Breeders' Gazette*.

VETERINARY SANITARIUM AND PRACTICE FOR SALE.

On account of the death of Lucian T. Bell, M.D., V.S., we offer for sale or rent the new and model veterinary sanitarium, No. 358 South Second Street, Brooklyn, N. Y., complete, with instruments, books, etc. Also the large and paying practice connected with same. For terms call or address John A. Weik, 331 Putnam Ave., Brooklyn, N. Y.

BACK NUMBERS OF REVIEW.

I want REVIEW of March, 1895. Will pay regular price. I will dispose of January, and March, 1892, and June, 1896. Address L. D. LE GEAR, V. S., 201 W. 6th st., Austin, Texas.

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